

YAMAHA

CBX-K1XG

MIDI SOUND KEYBOARD

Owner's Manual
Bedienungsanleitung
Mode d'emploi



SPECIAL MESSAGE SECTION (U.S.A.)

This product utilizes batteries or an external power supply (adapter). DO NOT connect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

This product should be used only with the components supplied or; a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

SPECIFICATIONS SUBJECT TO CHANGE:

The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods 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. **IMPORTANT:** The louder the sound, the shorter the time period before damage occurs.

NOTICE:

Service charges incurred due to lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES:

Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice:

This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

This product may also use "household" type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix old batteries with new, or with batteries of a different type. Batteries **MUST** be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning:

Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area. Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice:

Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. If your dealer is unable to assist you, please contact Yamaha directly.

NAME PLATE LOCATION:

The name plate is located on the bottom of the product. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.

Model CBX-K1XG

Serial No. _____

Purchase Date _____

PLEASE KEEP THIS MANUAL

FCC INFORMATION (U.S.A.)

IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

IMPORTANT:

When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

NOTE:

This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the user's manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

- Relocate either this product or the device that is being affected by the interference.
- Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.
- In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park CA, 90620

- This applies only to products distributed by Yamaha Corporation of America.

Precautions

Your CBX-K1XG will give you years of reliable service if you follow the simple precautions below:

● LOCATION

Keep the instrument away from locations where it is likely to be exposed to high temperatures (such as direct sunlight) or humidity. Also avoid locations which are subject to excessive dust accumulation or vibration which could damage the instrument.

● USE THE CORRECT POWER ADAPTOR

Use only the designated Power Adaptor for supplying power. Use of another adaptor may cause serious damage to the instrument or the adaptor itself. Also avoid using a multiple-plug adaptor; plug the adaptor directly into a wall outlet.

● MAKE SURE POWER IS OFF WHEN MAKING OR REMOVING CONNECTIONS

To prevent damage to the instrument and other connected equipment, always turn off the power prior to connecting or disconnecting cables. Also, turn the power off when the instrument is not in use, and disconnect the power adaptor during electric storms.

● NO MEMORY BACKUP

The CBX-K1XG has no internal memory backup. As a result, all settings are returned to the factory default when turning the power off.

● HANDLE THE INSTRUMENT WITH CARE

Although the instrument has been constructed to withstand the rigors of normal use for optimum sturdiness and reliability,

avoid subjecting it to strong physical shocks (such as dropping or hitting it). Since the CBX-K1XG is a precision-made electronic device, also avoid applying excessive force to the various controls. When moving the instrument, first unplug the power adaptor and all other cables to prevent damage to cords and jacks. Always unplug cables by gripping the plug firmly, **not** by pulling on the cable.

● CLEAN WITH A SOFT, DRY CLOTH

Never use solvents such as benzine or thinner to clean the instrument, since these will damage the cabinet finish or dull the keys. Wipe clean with a soft, dry cloth. If necessary, use a soft, clean, slightly moistened cloth — making sure to wipe the instrument off again with a dry cloth. Do not leave vinyl on the panel as this may stick to and discolor the surface.

● ELECTROMAGNETIC INTERFERENCE

Avoid using the unit near televisions, radios or other equipment generating electromagnetic fields. Proximity to such equipment may cause the unit to malfunction, and may generate interference noise in the other appliance as well.

● DO NOT OPEN THE CASE OR TRY REPAIRING THE INSTRUMENT YOURSELF

The instrument contains no user-serviceable parts. Never open the case or tamper with the internal circuitry in any way, since doing so may result in damage to the instrument. Refer all servicing to qualified Yamaha service personnel.

Yamaha is not responsible for damage caused by improper handling or operation.

Welcome to the CBX-K1XG

Congratulations and thank you for purchasing the Yamaha CBX-K1XG MIDI Sound Keyboard.

*The CBX-K1XG is a sophisticated, yet compact **MIDI keyboard controller and tone generator**, for use with computers and MIDI music systems.*

*The tone generator section features **737 high-quality Voices and 22 drum Voices**, with full **General MIDI compatibility**—including Yamaha's new **XG-MIDI**. It provides **16-Part multi-timbral capacity** and full **32-note polyphony** for playback of even the most sophisticated song data. Three independent **digital effect sections** can be used simultaneously and give you enormous versatility in "sweetening" the sound.*

*As a MIDI keyboard controller, the CBX-K1XG not only allows you to **play the internal tone generator**, but also **external tone generators and rhythm machines**, as well as **enter performance data** to sequencers and computers. It features a sophisticated **touch-sensitive keyboard** that can be adjusted to cover the **full 128-note MIDI range**. It also provides a **wealth of MIDI controls** that allow you to **send virtually any MIDI message** directly from the keyboard. Moreover, the CBX-K1XG has a **versatile ASSIGNABLE Wheel** that lets you **control a wide variety of parameters** on the internal tone generator or external device **in real time**.*

*The CBX-K1XG also features a **built-in host computer interface** along with the **MIDI terminals**, allowing you to directly connect it to your computer—eliminating the need of installing a special MIDI interface to your computer.*

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* PC 98 is a trademark of NEC.

* IBM PC/AT is a trademark of IBM Corporation.

* The company names and product names in this manual are trademarks or registered trademarks of their respective companies.

The CBX-K1XG—What It Is and What It Can Do

What It Is

The CBX-K1XG is a compact, highly portable 37-key MIDI keyboard, designed especially for use with computers and MIDI music systems. It also has a built-in high-quality GM- and XG-compatible tone generator, with 737 Voices and 22 drum Voices (percussion sets). The tone generator can be played either from an external MIDI device (such as a sequencer) or from the keyboard itself. Since the keyboard is touch-sensitive and its octave range can be changed to cover the full 128-note MIDI range, the CBX-K1XG is ideal for entering MIDI data to sequencers and computers.

The CBX-K1XG features a built-in host computer interface, allowing you to directly connect it to your Macintosh or IBM PC/AT (and compatible) computer—eliminating the need of installing a special MIDI interface to your computer. With the proper sequencing software on the computer, the CBX-K1XG can be used for both recording and playing back of sequencer data.

The true power and flexibility of the CBX-K1XG is in its comprehensive MIDI controls. The CBX-K1XG allows you to send virtually any type of MIDI message to connected devices. Pre-programmed commands provide easy control of basic sequencer/rhythm machine functions such

as Start, Stop, Tempo and Song Select, while comprehensive program change commands let you easily select program banks and voices.

The CBX-K1XG also has a convenient ASSIGNABLE Wheel that can be set for control of any controller number. This means that you can use the ASSIGNABLE Wheel to control a wide variety of parameters—such as Volume, Pan, Brightness, and the Depth of various effects—in real time. This gives you expressive control over different aspects of the sound in live performance. The internal tone generator also features comprehensive control over all Voice and effect parameters—via incoming system exclusive messages, transmitted from a sequencer or other MIDI device.

The CBX-K1XG is also the latest instrument in the Yamaha line to support the XG format, a new addition to the General MIDI standard. In short, XG provides for more instrument sounds and variations, and greater expressive control over voices and effects. With the use of the ASSIGNABLE Wheel on the CBX-K1XG, you have direct real-time control over many of these newly supported functions and parameters. Naturally, the internal tone generator is fully XG-compatible and responds to all these controls.

How to Use This Manual

By and large, the CBX-K1XG is very easy to use and this manual is self-explanatory. However, we strongly recommend that you take time to read the manual—especially before trying some of the more sophisticated MIDI functions.

The following conventions are used throughout this manual:

- * Panel buttons and controls are indicated as they appear on the actual instrument. (For example, **SHIFT** and **OCTAVE SHIFT ▶**).
- * The functions and features assigned to the keyboard are shown like this: **BANK SELECT** and **MIDI CH**.
- * Unless indicated otherwise, **ENTER** refers to either of the **ENTER** keys, **HEXADECIMAL ENTER** or **DECIMAL ENTER**. However, when you wish to enter a decimal value, make sure to press **DECIMAL ENTER**. Likewise, when entering a hexadecimal number, make sure to press **HEXADECIMAL ENTER**.
- * Operation steps are indicated as follows:

Example	Actual Operation
SHIFT + START	While holding down the SHIFT button, press START (D2).
SHIFT + GM ON → ENTER	While holding down the SHIFT button, first press GM ON (F#2), then press ENTER (either HEXADECIMAL ENTER or DECIMAL ENTER).

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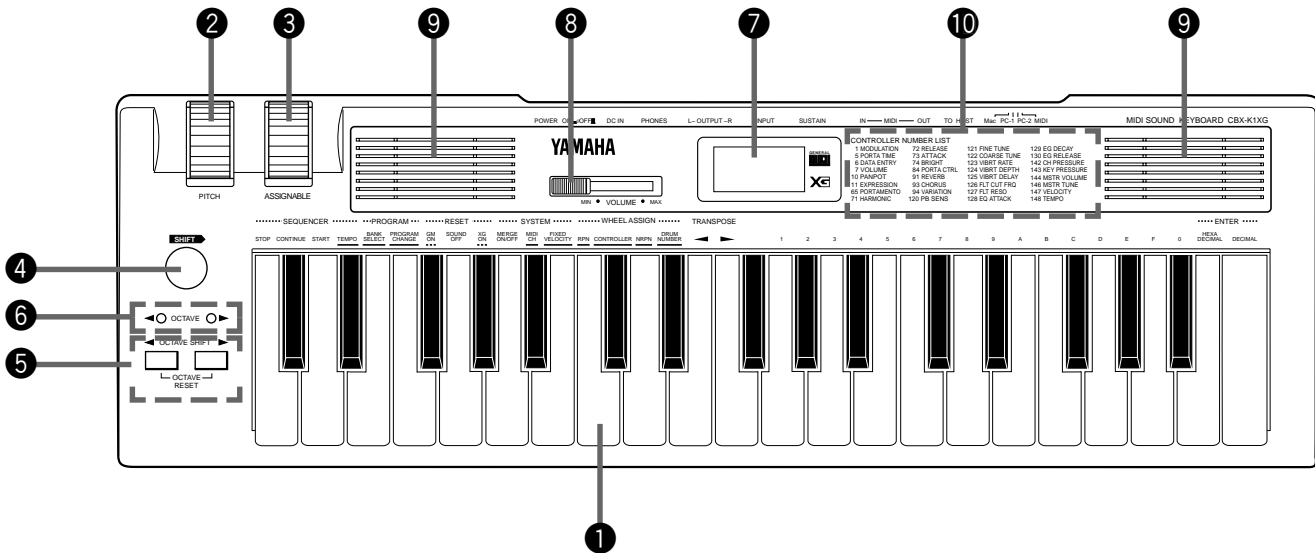
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Panel Controls and Terminals

■ Front Panel



1 Keyboard

The CBX-K1XG has a 37-key, 3-octave keyboard (C2 to C5), featuring initial touch (velocity) control. All note on, note off and velocity data is sent both to the internal tone generator and the connected MIDI device. When used with the **SHIFT** button, the keys are used for changing various settings and sending special MIDI messages. (See page 24.)

About the Functions of the CBX-K1XG: The functions are divided into two groups: Group A and Group B. The Group A functions are shown on the panel, above the left section of the keyboard. The Group B functions are “hidden” and are listed on pages 32 – 33. Several functions can be used by pressing only the relevant key; in other words, pressing **ENTER** is not necessary. These functions, such as Sequencer Stop and Start, are shown on the panel without underline. The right section of the keyboard serves as value entry and is used for those functions whose names are underlined on the panel and require value entry, such as Program Change and Tempo. Functions whose names appear with a dashed underline on the panel (for example, GM ON and XG ON) require pressing **ENTER**. Value entry on the CBX-K1XG can be done in two number systems: Decimal and Hexadecimal. The keys labeled A through F are for Hexadecimal entry.

NOTE ■ The normal (default) velocity range of the CBX-K1XG is from 16 to 127. The range differs according to the Touch Sensitivity setting (see page 32).

2 PITCH Wheel (Pitch Bend)

This spring-loaded Wheel controls Pitch Bend. The Wheel’s operation can be reversed. (See page 32.)

3 ASSIGNABLE Wheel

When the CBX-K1XG is turned on, this Wheel (with center detent) is set to control Modulation Depth of the internal tone generator and the connected MIDI device. It can be set to control other functions; see pages 18 and 30 for details. The Wheel’s operation can be reversed. (See page 32.) Turning the Wheel will momentarily show the currently assigned controller number on the LED.

4 **SHIFT** Button

This button is used to access the “hidden” functions of the CBX-K1XG. Used with the **◀ OCTAVE SHIFT** / **OCTAVE SHIFT ▶** buttons, it allows you to step up or down through program numbers. (See page 15.) Whenever turned on, the program number is set to 001. Used with the keys of the keyboard, it allows you to access the sophisticated MIDI control functions. (See page 24.)

5 **◀ OCTAVE SHIFT** / **OCTAVE SHIFT ▶** Buttons

These buttons are used to change the octave range of the keyboard, allowing you to play across the entire range of MIDI notes (C-2 to G8). When the octave setting is modified, the current octave setting is momentarily displayed on the LED. (See page 17.) Press both of these buttons together to restore the normal octave setting (C2 to C5).

Panel Controls and Terminals

6 ◀OCTAVE / OCTAVE▶ Lamps

These lamps provide several indications:

- During normal playing conditions, these (along with the LED display) indicate the octave setting of the keyboard, up (OCTAVE▶) or down (◀OCTAVE). Both light together for the normal octave setting. When changing the octave setting, these flash to indicate the number of octaves, up or down. (See page 17.)
- When using some of the “hidden” functions, these flash when a MIDI message is transmitted or when a function is executed.
- The right lamp flashes quickly when a MIDI buffer full error happens. The lamp flashes until you turn the power off and on again, or until you set MIDI Merge to ON. (See page 30.)

7 LED Display

In normal playing conditions, this displays the currently selected program number.

When moving the ASSIGNABLE Wheel, this flashes the currently active Controller number. (The default is 001, Modulation.)

When changing the octave setting, this momentarily indicates the number of octaves, up or down, from the normal octave setting. The range is -4 (4 octaves down) to 0 (normal) to 4 (4 octaves up).

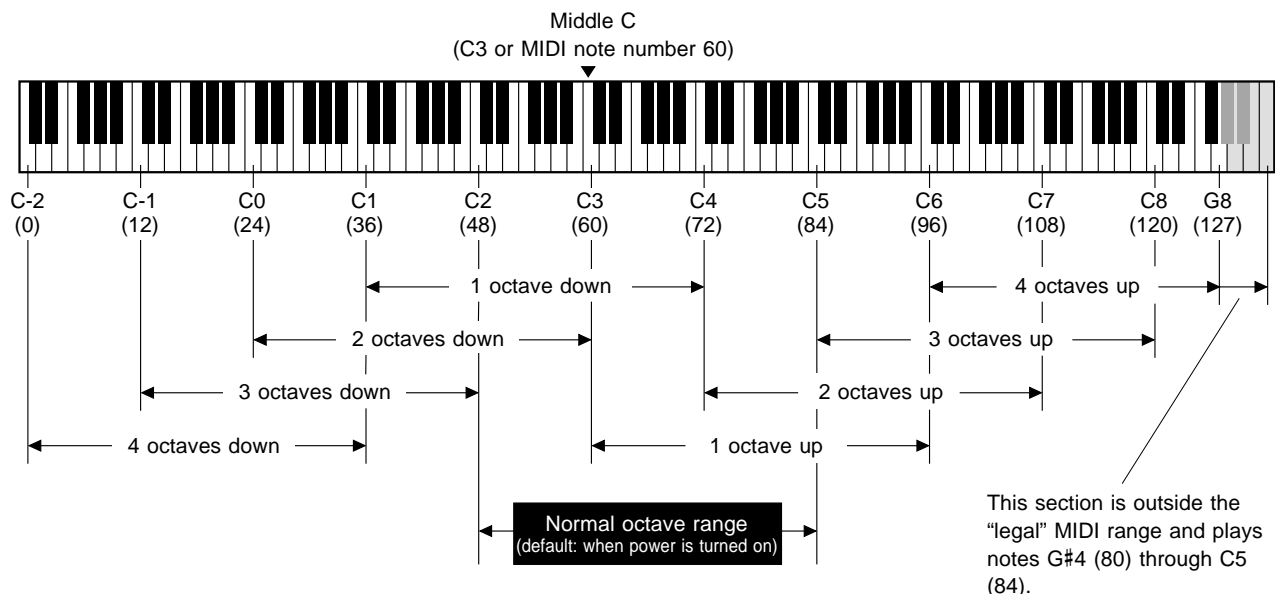
The display also indicates the status of the MIDI control operations. Depending on the operation performed, the display may:

- Flash rapidly, indicating the selected MIDI message has been sent. (Ex.: When pressing **SHIFT** + **STOP**.)
- Show the current condition or value. (Ex.: When pressing **SHIFT** + **TEMPO**.) It also displays the entered value when changing a function’s setting.

8 VOLUME Control

This controls the overall volume of the CBX-K1XG — its internal Voices and the signal received via the INPUT jack. This affects all outputs: PHONES, OUTPUT jacks, and built-in speakers.

● Note Range of the CBX-K1XG (with Octave Shift)



9 Built-in Speakers

The sounds of the internal tone generator, as well as the audio signals input via the INPUT jack, can be heard through the built-in speaker system.

NOTE ■ *Since the built-in speakers do not completely reproduce the full dynamic and frequency range of the internal tone generator, for best sonic results please use the OUTPUT jacks (with an appropriate amplifier/speaker system) or a set of stereo headphones (connected to the PHONES jack).*

10 CONTROLLER NUMBER LIST

This is a list of some of the main controller numbers (and their names) that can be used with the ASSIGNABLE Wheel. (For a complete list, see page 34.)

■ Default Settings of the CBX-K1XG

The CBX-K1XG has no internal memory backup. As a result, all settings are returned to the factory default when turning the power off. The basic factory default settings are listed below.

- **Internal tone generator:**
XG mode, with program number 001 of Bank 0 (Grand Piano) selected, and all settings at their defaults.
- **Merge:** off
- **Local:** on
- **MIDI transmit channel:** 1
- **Octave range:** C2-C5
- **Transpose:** normal (no transposition)
- **Fixed velocity:** off (keyboard is velocity sensitive)
- **ASSIGNABLE Wheel:** Modulation

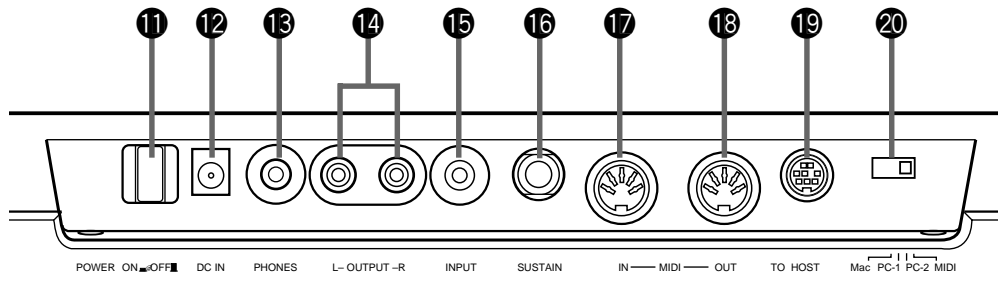
■ User-configurable Defaults:

You can change certain power-on default settings of the CBX-K1XG. These include:

- * Reversing the PITCH Wheel and ASSIGNABLE Wheel operation. Hold down **◀OCTAVE SHIFT** and turn the power on. (See page 32.)
- * Reversing the MSB, LSB order. Hold down **OCTAVE SHIFT▶** and turn the power on. (See page 32.)

Panel Controls and Terminals

■ Rear Panel



11 POWER Switch

Push this switch in to turn on the power. Each time the power is turned on, the CBX-K1XG returns to the default condition. (See boxed section on page 7.)

12 DC IN Terminal

This is for connection to a PA-3B, PA-1207 or an equivalent AC power adaptor.

13 PHONES Jack (stereo mini-pin)

This is for connection to a set of stereo headphones.

14 L/R OUTPUT Jacks (RCA pin)

This is for connection to a stereo amplifier/speaker system.

15 INPUT Jack (stereo mini-pin)

This is for connection of an external audio source. The volume control also affects the output signal input via this jack.

16 SUSTAIN Jack (1/4" phone)

This is for connection of a pedal switch (such as the optional Yamaha FC4 or FC5). When connected, the switch controls sustain on/off (Controller no. 64), both for the internal tone generator and for a connected MIDI device.

17 MIDI IN Terminal

This is for connection to the MIDI OUT terminal of another MIDI device (such as a MIDI keyboard, sequencer or computer that has a MIDI interface), for input of that device's data. By using the MIDI Merge function, that data can be combined with the data generated by the CBX-K1XG and transmitted via the MIDI OUT terminal.

18 MIDI OUT Terminal

This is for connection to the MIDI IN terminal of another MIDI device (such as a MIDI tone generator, sequencer or computer that has a MIDI interface), for sending MIDI messages to that device. By using the MIDI Merge function, data received at MIDI IN can be combined with the data generated by the CBX-K1XG and transmitted via this terminal.

19 TO HOST Terminal

This is for direct connection to a host computer. (See page 10.)

20 Host Select Switch

This is for selection of the type of host computer, or (when set to MIDI) normal MIDI operation. The available settings are: **Mac** (Macintosh computers), **PC-1** (NEC PC 98 computers; for use in Japan), **PC-2** (IBM PC/AT and compatible computers), and **MIDI**. When using the MIDI terminals, this should be set to **MIDI**. (See pages 12 and 13.)

Guided Tour

■ Setting Up the CBX-K1XG in Your Music System

Whatever your system, you should follow the basic instructions below when setting up your CBX-K1XG. Use the example illustrations as a general guide when making the connections with your own system.

Power Supply

Your CBX-K1XG will run from the included power adaptor, PA-3B, PA-1207 or an equivalent. Alkaline batteries can also be used (see below). However, we strongly recommend that you use the power adaptor, since the CBX-K1XG runs only for a short time on battery power.

NOTE ■ Before making any connections, make sure that all equipment to be connected is turned off, and unplugged.

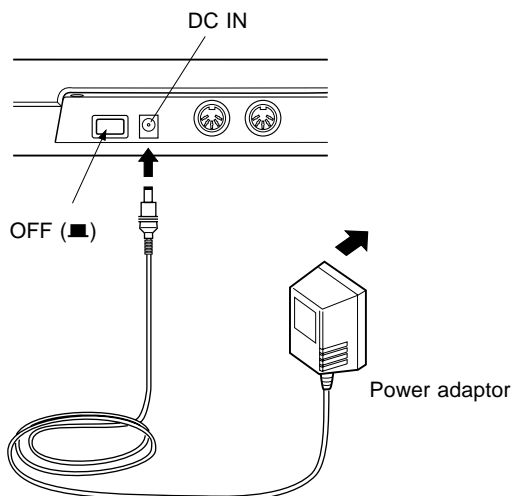
Using a Power Adaptor

Connect one end of the power adaptor (PA-3B, PA-1207 or an equivalent) to the DC IN jack on the rear panel, and the other end to a suitable electrical outlet.

CAUTION!

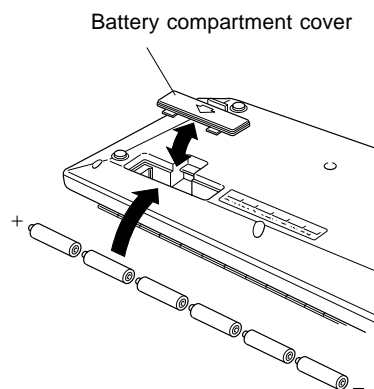
■ Do not attempt to use a power adaptor other than those specified above. The use of an incompatible adaptor may result in irreparable damage to the CBX-K1XG, and even pose a serious shock hazard.

■ Be sure to disconnect the power adaptor from the outlet when the CBX-K1XG is not in use.



Using Alkaline Batteries

To use the CBX-K1XG on battery power, remove the battery compartment cover (as shown below) and insert six 1.5V LR6 size alkaline batteries in the battery compartment. Make sure to follow the polarity indications on the bottom case.



Securely replace the battery compartment cover when done installing the batteries.

When to Replace the Batteries

When the battery power runs too low to properly operate the CBX-K1XG, an “Err” message appears in the LED display. When this happens, replace all batteries with a complete set of six new alkaline batteries of the same type.

CAUTION! ■ NEVER mix old and new batteries or different types of batteries! Also, to prevent possible damage due to battery leakage, remove the batteries from the instrument if it is not to be used for an extended period of time.

Connections



All the devices must be turned off and unplugged before making connections.

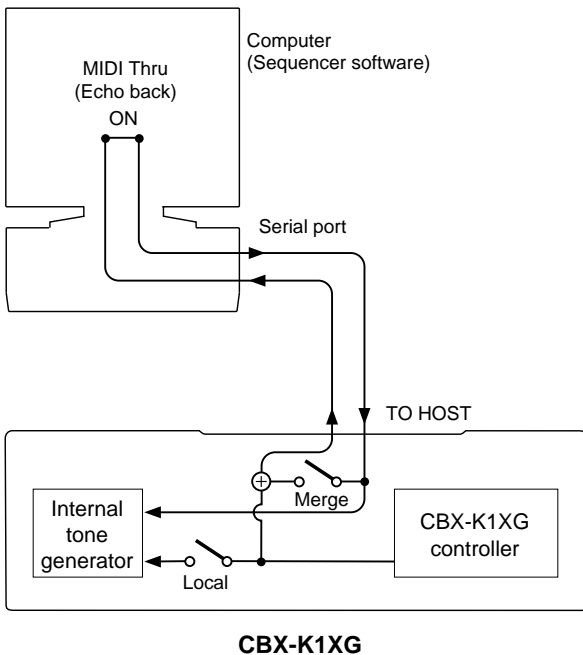
Computers

There are two ways to connect the CBX-K1XG with your computer:

- | Computer | CBX-K1XG |
|----------------|------------------|
| 1. Serial Port | TO HOST Terminal |
| 2. Serial Port | MIDI Interface |
| | MIDI Terminals |

1. Serial Port — TO HOST Terminal

Whichever computer you use, the connections are basically the same. However, the position of the Host Select switch depends on the computer type since the serial port type and its clock may differ.



CAUTION! ■ If the MIDI Thru (or Echo Back) setting on the sequencer software is set to ON, be sure to set the MIDI Merge and Local functions on the CBX-K1XG to OFF, to avoid a MIDI data “loop.” (See pages 30 and 32.)

● MIDI Merge On/Off

Determines whether the messages received at MIDI IN are mixed with the CBX-K1XG’s internal data and sent via MIDI OUT (ON), or not (OFF).

When the power is turned on, MIDI Merge is set to OFF.

● Local On/Off

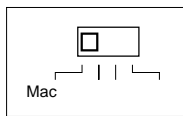
Determines whether the note related messages and the control data such as assignable wheel will be sent to the internal tone generator (ON), or not (OFF). When set to ON, the messages will be sent to both internal tone generator and the connected MIDI device.

When the power is turned on, Local is set to ON.

NOTE ■ When incoming active sensing messages <<FE>> exceed that allowed by the MIDI standard, the sound will automatically be cut off.

NOTE ■ If you are using an external MIDI instrument, this introductory section assumes that the MIDI transmit channel of the CBX-K1XG and the MIDI receive channel of the connected device match. When the CBX-K1XG is turned on, the MIDI transmit channel is automatically set to 1.

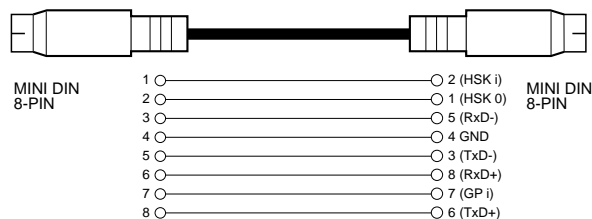
● Mac — Macintosh



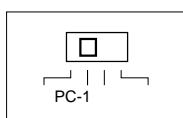
Connect the TO HOST Terminal of the CBX-K1XG to the Modem (or Printer) port of the computer with an optional Apple Macintosh peripheral cable (M0197), then select Mac

(31,250 bps) with the Host Select switch.

- * Set the MIDI interface clock in the Apple MIDI Driver to 1MHz.
- * Apple Macintosh Peripheral cable (M0197). Maximum length 2 meters.



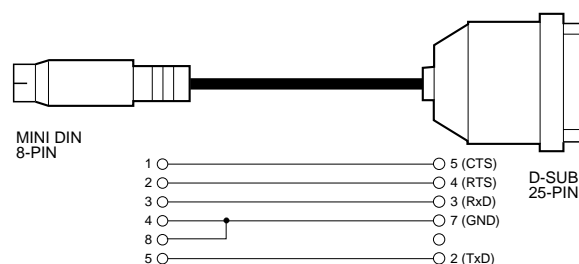
● PC-1 — PC98



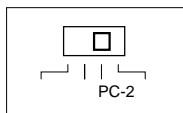
Connect the TO HOST Terminal of the CBX-K1XG to the serial port of the PC98 computer with an optional 8-pin MINI DIN to D-SUB 25-pin cable, then select PC-1 (31,250 bps) from the Host Select switch.

the Host Select switch.

- * 8-pin MINI DIN to D-SUB 25-pin cable. If your PC-1 type computer has a 9-pin serial port, use the PC-2 type cable. Maximum length 1.8 meters.



● PC-2 — IBM PC/AT

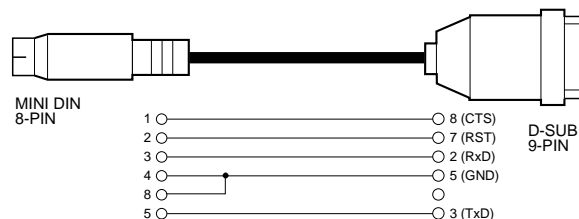


Connect the TO HOST Terminal of the CBX-K1XG to the serial port of the IBM PC/AT (or compatible) computer with an optional 8-pin MINI DIN to D-SUB 9-pin cable, then select

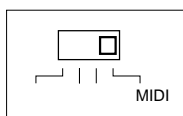
PC-2 (38,400 bps) with the Host Select switch.

If the computer serial port is a D-SUB 25-pin type, use an 8-pin MINI DIN to D-SUB 25-pin cable with plug adapter (9-pin — 25pin).

- * 8-pin MINI DIN to D-SUB 9-pin cable. Maximum length 1.8 meters.



● MIDI — Via MIDI connection (see next page).



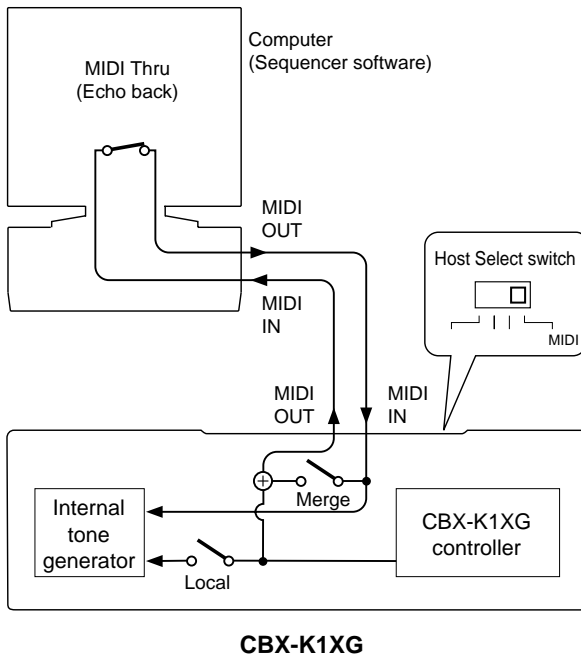
- * Set the MIDI Thru (or Echo Back) setting on the sequencer software to ON, and be sure to set the MIDI Merge and Local functions on the CBX-K1XG to OFF, to avoid a MIDI data "loop."
- * Depending on the computer you use, you may need to select the different Select switch(PC-1[31,250 bps] or PC-2[38,400 bps]). Please refer to your computer's manual.
- * As to the required MIDI settings for the computer/sequencing software, refer to the respective manuals.

Connections

2. Serial Port — MIDI Interface — MIDI Terminals

● Connecting to a computer with a MIDI interface:

Connect the MIDI IN/OUT Terminals of the CBX-K1XG to the MIDI OUT/IN Terminals of the computer with an appropriate MIDI cable as illustrated below, then select MIDI (31,250 bps) from the Host Select switch.

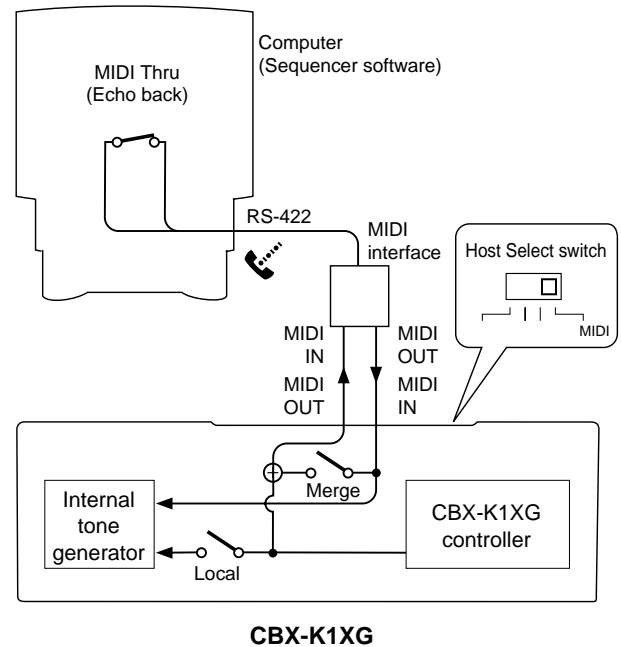


CBX-K1XG

* Set the MIDI Thru (or Echo Back) setting on the sequencer software to ON, and be sure to set the MIDI Merge and Local functions on the CBX-K1XG to OFF, to avoid a MIDI data “loop.”

● Connecting to a Macintosh with a MIDI interface:

Connect the MIDI IN/OUT Terminals of the CBX-K1XG to the MIDI OUT/IN Terminals of the MIDI interface extended from the Macintosh with an appropriate MIDI cable as illustrated below, then select MIDI (31,250 bps) from the Host Select switch.



CBX-K1XG

* You may need to set the MIDI interface clock in the Apple MIDI Driver to an appropriate value. Please refer to your computer's manual.

* Set the MIDI Thru (or Echo Back) setting on the sequencer software to ON, and be sure to set the MIDI Merge and Local functions on the CBX-K1XG to OFF, to avoid a MIDI data “loop.”

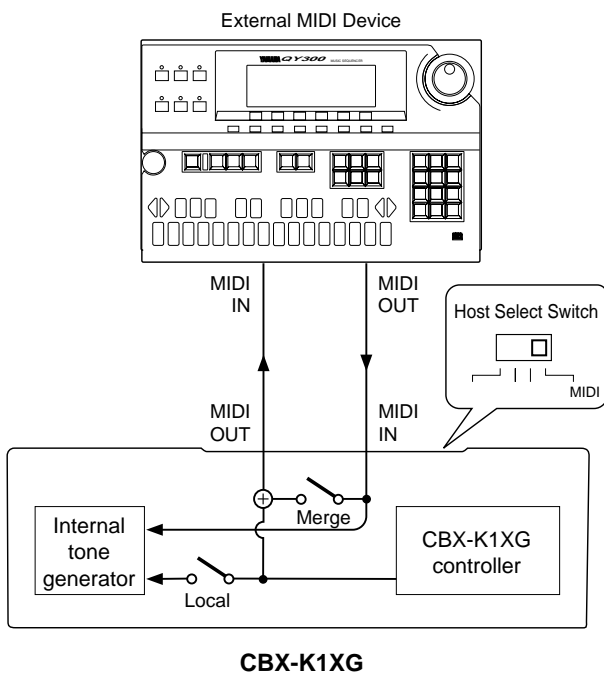
NOTE ■

- * When the Host Select switch is set to MIDI, the TO HOST terminal is inactive.
- * When connecting the instrument to other MIDI devices, be sure to use only high quality MIDI cables. Also, avoid using cables longer than 15 meters, since long cables can result in data errors.

MIDI Devices

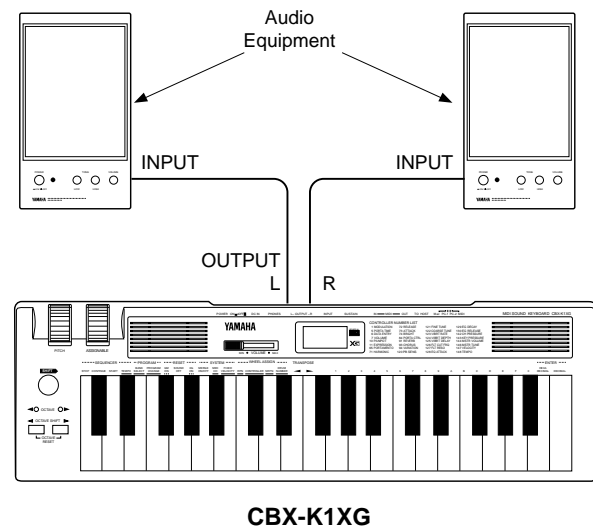
Connect the MIDI IN/OUT Terminals of the CBX-K1XG to the MIDI OUT/IN terminals of an external device (such as a sequencer or tone generator) with MIDI cables and set the Host Select switch to MIDI. You can control the connected device with the CBX-K1XG, and have the sequencer control and play the CBX-K1XG's internal tone generator.

* When the Host Select switch is set to Mac, PC-1 or PC-2, the MIDI IN/OUT terminals are inactive.



Audio Equipment

The CBX-K1XG has a set of built-in stereo speakers. However, you can use an external audio device for optimum sound reproduction by connecting the OUTPUT jacks of the CBX-K1XG to the external audio device's INPUT jacks.



After making connections, switch on the power of each device in the following order: external MIDI device (or computer) first, CBX-K1XG and then external audio device. **MAKE SURE TO TURN DOWN THE VOLUME LEVELS OF ALL THE RELATED DEVICES.**

When turning off the power of each device, simply reverse the process.

Playing and Using Your CBX-K1XG

This section of the manual guides you through some of the basic features and functions of the CBX-K1XG. It also provides some advanced operation examples, so that you can get a feel for what the CBX-K1XG is capable of, and how you can best use it. Master the basics in this section, and you'll have the experience and know-how to easily and confidently use any of the more advanced functions covered later in the **Reference** section.

In this section, you'll learn how to:

- Play the special Demo Song.
- Select and play the Voices of the internal tone generator.
- Select Voices from other Voice Banks.
- Select drum Voices.
- Change the octave setting of the keyboard.
- Use the PITCH and ASSIGNABLE Wheels.
- Re-assign the controller for the ASSIGNABLE Wheel.
- Change the Touch Sensitivity of the keyboard.
- Connect and use an external audio source with the CBX-K1XG.

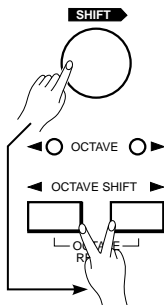
Playing the Demo Song

Once you've set up the CBX-K1XG properly, try playing the built-in Demo Song. This specially recorded song showcases the high-quality Voices and the AWM2 (Advanced Wave Memory 2) tone generation system of the CBX-K1XG. It also demonstrates the multi-timbral capacity and the use of effects and MIDI control. Though the CBX-K1XG has no sequence recording capabilities of its own, the Demo Song shows what can be done by using only a sequencer and a single CBX-K1XG.

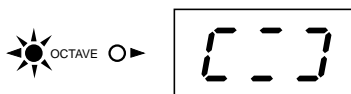
For optimum sound, connect the CBX-K1XG to an amplifier/speaker system.

Operation

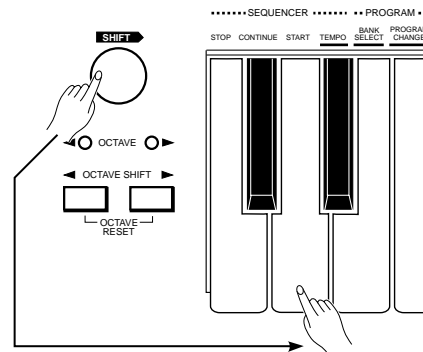
1. Simultaneously press **SHIFT**, **◀OCTAVE SHIFT**, and **OCTAVE SHIFT▶**.



The **◀OCTAVE** lamp lights and the following pattern appears in the LED display, indicating Demo Song standby:



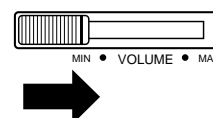
2. To start playback of the Demo Song, hold down **SHIFT** and press the key corresponding to **SEQUENCER START** (the lowest D), or **CONTINUE** (D \flat).



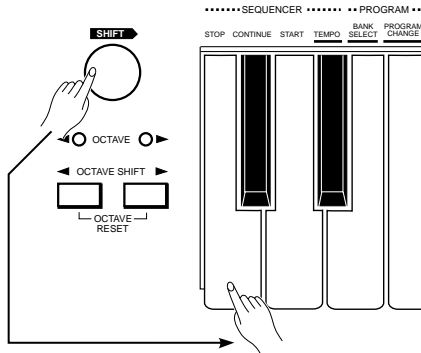
The **OCTAVE** lamps and LED display flash as the Demo Song plays back. Playback repeats indefinitely until stopped (in step 4 below).

NOTE ■ During Demo Song playback, the keyboard cannot be played and no other operations can be performed (with the exception of the **STOP**, **CONTINUE**, and **START** commands, and the **VOLUME** control).

3. Adjust the volume with the **VOLUME** control.



4. To stop playback of the Demo Song, hold down **SHIFT** and press the key corresponding to **STOP** (the lowest C).



To continue playing the Demo Song from the stopped point, hold down **SHIFT** and press **CONTINUE**. To start from the beginning, hold down **SHIFT** and press **START**.

5. To exit from the Demo Song function, simultaneously press **SHIFT**, **◀OCTAVE SHIFT**, and **OCTAVE SHIFT▶** again.

Selecting and Playing Voices

The CBX-K1XG features a total of 737 high-quality Normal Voices, created with the AWM2 tone generation system. The default Voice Bank contains 128 different Voices, and you can easily select these Voices in two ways: stepping up or down through the Voice numbers, or directly selecting a specific Voice number. (For a list of the available Voices, see page App-17.) When the CBX-K1XG is turned on, Bank 0 is automatically selected, and operation is set to GM Level 1.

- **To step up or down through the Voice numbers:** Simultaneously hold down **SHIFT** and press **OCTAVE SHIFT▶** (to advance one program number), or press **◀OCTAVE SHIFT** (to go back one program number).

The program number in the LED display changes accordingly, and the **OCTAVE SHIFT** lamps quickly flash on and off. Release **SHIFT**, and play the keyboard to hear the newly selected Voice.

To quickly move up or down through the Voice numbers, continuously hold down **SHIFT** and the appropriate **OCTAVE SHIFT** button.

When the CBX-K1XG is turned on, the starting point for program change is 001. This means that when you first hold down **SHIFT** and press **OCTAVE SHIFT▶**, program number 002 will be selected.

IMPORTANT! ■ Always release **SHIFT** before playing the CBX-K1XG keyboard. Holding down **SHIFT** accesses the secondary or “hidden” functions, and you may inadvertently execute one of these functions by playing the keyboard while continuing to hold down **SHIFT**.

NOTE ■ This function does not “wrap around.” In other words, you cannot go back to program number 128 when at 001, or advance to program number 001 when at 128.

- **To directly select a specific Voice number:** Simultaneously hold down **SHIFT**, press the keys corresponding to the desired Voice number, then the **DECIMAL ENTER** key.

For example, to select Voice number 017, continue holding down **SHIFT** and press **1**, **7**, then **DECIMAL ENTER**. Release **SHIFT**, and play the keyboard to hear the newly selected Voice.

Playing and Using Your CBX-K1XG

Selecting Voices From Other Voice Banks

In addition to the default Voice Bank, the CBX-K1XG has many other Voice Banks, from which you can select many Voice variations. When turned on, the CBX-K1XG is set to XG mode and Bank 0 is automatically selected. In the XG mode there are 45 Banks from which you can choose. Though not all of the Banks have a completely different set of Voices, altogether there are 737 Normal Voices and 22 Drum Voices available in the various Banks.

IMPORTANT! ■ *For the sake of the operation example below, you may want to select Voice number 17 (see **Selecting and Playing Voices** above). This particular Voice has many variations, and lets you clearly hear the difference between Voices in different Banks.*

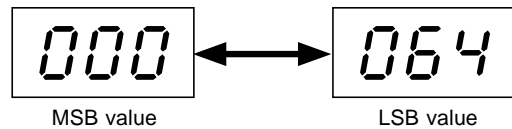
Operation

1. Simultaneously hold down **SHIFT** and press **BANK SELECT**.

The LED display indicates the current Bank setting by alternately flashing the MSB and LSB values. (In this case, the default setting, both of these values are 000.)



2. While continuing to hold down **SHIFT**, enter the number 64 (press **6**, then **4**), then press **DECIMAL ENTER**.



The display alternately flashes the MSB and LSB values.

This sets the Bank to 064 (LSB value). The LED display alternately flashes the MSB and LSB values, 000 and 064. If you've selected Voice number 17 before changing banks, the newly selected Bank's Voice should sound different from the original Voice.

NOTE ■ *For the internal tone generator, only the LSB value need be set. For information on setting both the MSB and LSB, see page 27.*

To restore the original Bank (or select other Banks), hold down **SHIFT**, press **BANK SELECT**, **0** (or another number for a different Bank), and **DECIMAL ENTER**. (Alternately, simply turn the CBX-K1XG off and on again to reset the instrument to its default settings; see page 7.) For a list of the other Banks and their Voices, see page App-17.

Selecting Drum Voices

The CBX-K1XG also features 22 different drum Voices, and each contains various drum and percussion sounds assigned individually to the keys. (For a list of the available drum Voices and their individual drum/percussion sounds, see page App-23.)

■ Normal Voices and Drum Voices

The CBX-K1XG has two types of Voices—Normal Voices and Drum Voices. (In this Owner's Manual, in general the word Voice refers to a Normal Voice.) The distinction between a Normal Voice and a Drum Voice is as follows:

- A Normal Voice is simply a pitched Voice which can be played on a musical scale from low to high, such as a piano or trumpet. The CBX-K1XG has 737 Normal Voices.
- A Drum Voice is a complete set of drum and other percussion sounds, each sound having a fixed pitch. Each sound is assigned to a specific MIDI Note number (which also corresponds to a key on a MIDI keyboard). The CBX-K1XG has 22 Drum Voices.

Operation

1. First select MIDI channel 10 (the default drum channel). To do this, simultaneously hold down **SHIFT** and press the following keys in order:

- **MIDI CH**
- **1**
- **0**
- **DECIMAL ENTER**

Finally, release **SHIFT**. The MIDI channel should now be set to 10. Play the keyboard now to hear the various drum sounds. Try also changing the octave setting (see **Changing the Octave Range** below) and playing the other sounds as well.

2. To select different drum Voices, hold down **SHIFT** and use the **◀OCTAVE SHIFT**/**OCTAVE SHIFT▶** buttons.

To select and play normal Voices again, set the MIDI channel to a value other than 10. For example, hold down **SHIFT** and press **MIDI CH**, **1**, and **DECIMAL ENTER**. (Or, simply turn the CBX-K1XG off and on again—doing this resets the instrument to its default settings; see page 7.)

Changing the Octave Range

The range of the 3-octave keyboard can be easily shifted up or down to cover the full 10-1/2-octave (128-note) range of MIDI notes. (See page 6 for the note range.)

Operation

To shift the keyboard up one octave, press **OCTAVE SHIFT▶**. To shift the keyboard down one octave, press **◀OCTAVE SHIFT**.

When the octave range is changed, the LED display briefly indicates the new setting. The **OCTAVE SHIFT** lamps also rapidly flash one or more times, according to the selected octave range. For example, when the setting is changed to two octaves below normal, the left lamp flashes twice.

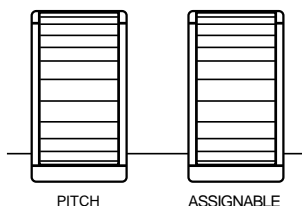
You can instantly restore the normal octave range by pressing both **◀OCTAVE SHIFT**/**OCTAVE SHIFT▶** buttons simultaneously.

NOTE ■ *At the highest octave setting, keys outside the legal MIDI note range will repeat a previous octave.*

Playing and Using Your CBX-K1XG

Using the PITCH and ASSIGNABLE Wheels

These two wheels let you control different aspects of the sound in realtime as you play. These controls affect both the internal tone generator and any connected MIDI instrument.



Move the PITCH Wheel as you play to change the pitch of the sound. Moving the wheel away from you bends the pitch up, though this can be reversed if desired (see page 32). The PITCH Wheel is spring-loaded for returning to center (normal pitch).

Move the ASSIGNABLE Wheel as you play to change the modulation of the sound (MIDI Controller #1). Moving the wheel away from you increases the modulation, though this can be reversed if desired (see page 32). The ASSIGNABLE Wheel can also be set to control other functions; see the section below for details.

Re-assigning the ASSIGNABLE Wheel

As mentioned above, the ASSIGNABLE Wheel can be used to control a variety of different functions. The default setting is for modulation control (MIDI Controller #1); however, it can be set to control volume, pan position, attack or release time, coarse or fine tuning, and reverb or chorus depth, among other Controllers. (For a complete list of the available Controllers and their numbers, see page 34.)

Operation

1. Simultaneously hold down **SHIFT** and press **CONTROLLER**.

The LED display indicates the current ASSIGNABLE Wheel's Controller number.

2. While continuing to hold down **SHIFT**, enter the number 93 (press **9**, then **3**), then press **DECIMAL ENTER**.

This sets the ASSIGNABLE Wheel to Controller number 93 (Chorus). Play the keyboard and move the ASSIGNABLE Wheel as you play, and hear how a Chorus effect comes in as you move the wheel to the maximum position. As you move the Wheel, the currently assigned Controller number appears in the LED display.

Try entering other Controller numbers, repeating steps 1 and 2 above. (A short list of Controllers is printed on the panel. Try entering some of these; many—but not all—of these will have an obvious effect on the sound as you move the wheel.)

* You can also assign RPN and NRPN numbers to the ASSIGNABLE Wheel. (See page 30.)

Changing the Touch Sensitivity of the Keyboard

The Touch Sensitivity function lets you change how the Voices respond to your playing strength. (This affects both the internal tone generator and any connected MIDI instrument.)

NOTE ■ *Touch Sensitivity is a “Group B” function. The “Group A” functions (such as Program Change, Bank Select, and Controller, which were covered above) are shown on the panel and explained in detail on pages 30 – 31. The Group B functions (listed and explained on pages 32 – 33) are not shown on the panel and are accessed differently than Group A functions.*

Operation

1. Simultaneously hold down **SHIFT**, press **DECIMAL ENTER**, then **FIXED VELOCITY**.

Pressing **DECIMAL ENTER** first (before any function key) calls up the Group B functions. Touch Sensitivity corresponds to the **FIXED VELOCITY** key. The LED display indicates the current Touch Sensitivity value.

2. While continuing to hold down **SHIFT**, enter the number 1, then press **DECIMAL ENTER**.

This sets Touch Sensitivity to 1 (easy). Now, when you play the keyboard, even playing softly results in a reasonably loud sound.

Try entering other values (the range is 1-10), and hear how they affect the response of the keyboard. The default value is 5, and can also be restored by simply turning the CBX-K1XG off and on again.

NOTE ■ *When Fixed Velocity is set to a value other than 0 (off), the Touch Sensitivity setting has no effect.*

For more information on Touch Sensitivity, see footnote #2 on page 32.

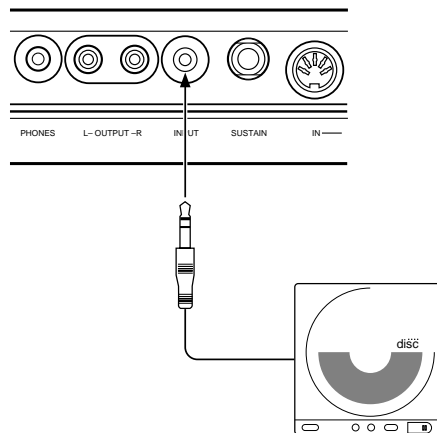
Using the INPUT Jack

Built into the CBX-K1XG is an INPUT jack, which allows you to connect an external audio source (such as a CD player, portable tape deck, or electric musical instrument) and mix that source with the Voices of the CBX-K1XG—without the need for an external mixer. For example, you can connect a CD player and play the CBX-K1XG along with your favorite CD. Or you can connect another keyboard and have its output mixed along with the CBX-K1XG's Voices.

NOTE ■ *The built-in effects of the CBX-K1XG are not applied to the INPUT signals.*

Operation

1. Turn off the CBX-K1XG.
2. Connect the audio source to the INPUT jack.
The INPUT jack accepts stereo mini-pin plugs.



3. Turn the CBX-K1XG back on and gradually turn up the VOLUME control on the CBX-K1XG (and the output level of the source, if necessary) until the level is appropriate.

This concludes the basic tour of some of the important functions of the CBX-K1XG. To find out more about how to use your CBX-K1XG, look through the **Reference** section that follows and try out some of the functions and operations that interest you.

Reference

About the Tone Generator of the CBX-K1XG



General MIDI (GM)

General MIDI (GM) is a new addition to the worldwide MIDI standard. The main feature of GM is in the standardization of instrument sounds, ensuring that song data recorded in the GM format can be played back on GM-compatible tone generators of any manufacturer, and sound as the composer or programmer intended.



XG

XG is a major new enhancement to the GM format developed by Yamaha, and it provides for more instrument sounds and variations, as well as greater expressive control over voices and effects. XG-compatible instruments feature full compatibility with GM, while ensuring forward compatibility with future instruments and software.

The CBX-K1XG features four different performance modes: XG, TG300B, C/M and DOC. Normally the CBX-K1XG plays in XG mode. However, since it automatically recognizes which mode to select based on incoming MIDI data, you can easily change the performance mode from the MIDI control functions of the CBX-K1XG itself. (Refer to the following function explanations on pages 30 – 33 : GM Mode On, XG System On, C/M Mode On, and TG300B Reset.) You can also change the mode by MIDI System Exclusive messages that you program in sequencer data, at the head of your composition.

* *The DOC mode is a special mode used for playback of Yamaha's Disk Orchestra Collection song data. DOC mode is automatically selected when playing back such song data; however, the mode cannot be selected from the CBX-K1XG itself.*

Please note the following:

- Starting up your computer will automatically initialize all CBX-K1XG settings, or parameter values.
- Since the CBX-K1XG requires about half a second to change modes when it receives a mode change message, be sure to insert at least one blank measure at the top of the song in order to allow enough time for the mode to change before your actual music data begins.

● XG Mode

In XG mode the CBX-K1XG will play XG-compatible multitimbral data, as well as multitimbral data created for the GM System Level 1 format.

In XG mode the CBX-K1XG can:

- Play up to 16 Parts.
- Choose from 480 Normal Voices and 11 Drum Voices.

● TG300B Mode

In TG300B mode the CBX-K1XG will play multitimbral music data created for TG300B-compatible tone generators. TG300B mode also provides compatibility with the GM System Level 1 format.

In TG300B mode the CBX-K1XG can:

- Play up to 16 Parts.
- Choose from 579 Normal Voices and 10 Drum Voices.

● C/M Mode

The C/M mode provides semi-compatibility with song data recorded for computer music systems preceding the GM Level 1 standard.

In C/M mode the CBX-K1XG can:

- Play up to 16 Parts.
- Choose from 192 Normal Voices and 1 Drum Voices.

NOTE ■ When set to C/M mode, reception over MIDI channel 1 is turned off, and the tone generator Voices will not sound for that channel.

■ Voices and Elements

A CBX-K1XG Voice can be made up of one or two elements (i.e., sounds), depending on the complexity of the Voice. Many Voices are made up of only one element. Two-element Voices are made up of two one-element Voices, and may be configured in a variety of ways.

The number of elements in use determines the maximum number of simultaneous notes (polyphony) which the CBX-K1XG can play at any given time, depending on the amount of incoming MIDI Note data. For details about the number of elements used in each Voice, see the XG Normal Voice List on page App-17.

■ Maximum Polyphony

The CBX-K1XG can play a maximum of 32 notes polyphony at once. However, the actual number of notes that will play at any given time is determined by the number of elements in use across the 16 Parts.

For example, if you use only one-element Voices, you can achieve the full 32 notes maximum polyphony. If you use one or more two-element Voices, however, maximum polyphony will be reduced accordingly.

The CBX-K1XG is a last-note-priority tone generator, which means that if it receives more than 32 notes of MIDI Note data at any time, earlier (first) notes will automatically be cut off to accommodate the most recent (last) incoming notes.

■ Part Priority

Each of the CBX-K1XG's 16 Parts corresponds to each of the 16 MIDI channels (1 – 16). If incoming Note data exceeds the maximum polyphony, the CBX-K1XG will prioritize which Parts are played first, in the following order, from higher priority to lower:

- Channel 10 (Drum Part), 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16.

Therefore, if you are creating your own music data using sequencer software, you should assign your most important Parts (such as melody and bass) to higher priority MIDI channels (i.e., lower MIDI channel numbers) in order to preserve the integrity of your composition. Note that with the GM System Level 1, the Drum Part is always assigned to MIDI channel 10.

■ Element Reserve

The CBX-K1XG has an Element Reserve feature that lets you reserve a specified number of notes for certain Parts, in order to keep notes from being “stolen” from those Parts by other Parts if incoming MIDI Note data exceeds maximum

available polyphony.

For example, if you specify an Element Reserve value of “10” for Part 1, then Part 1 will always keep 10 elements for itself. You can set Element Reserve values with MIDI System Exclusive messages (refer to the MIDI Data Format section: XG Native Parameter Change on pages App-9 – 10, and Table 1-5 on pages App-13 – 15).

■ Selecting Voices

The CBX-K1XG not only contains the 128 basic GM Voices and GM drum set, but many variation Voices as well—to give you access to a total of 737 Normal Voices and 22 Drum Voices.

Voices are selected by specifying a Bank number and a Voice (program) number. Bank numbers and Voice numbers can be selected directly from the keyboard of the CBX-K1XG. (See pages 15 and 16.)

■ Effect Types

The CBX-K1XG features dozens of extremely versatile digital effects generated by Yamaha's advanced Digital Signal Processing (DSP) technology.

There are three distinct effect types, or effect sections, each of which include a variety of individual effects. There are 11 Reverb type effects, 11 Chorus type effects, and 42 Variation type effects. For a complete list of effects, see the Effect Type List on page App-26.

Reverb, Chorus and Variation effect types are configured, or routed, in one of two ways—to be either a System Effect or an Insertion Effect. The difference is as follows:

- **SYSTEM EFFECT**
 - Applies the designated effect to all 16 Parts.
- **INSERTION EFFECT**
 - Applies the designated effect to only one specific Part.

Reverb and Chorus effect types are dedicated System Effects, and therefore are applied to the overall “mix”. The Variation effect type, however, can be configured as either a System Effect or an Insertion Effect. To designate effect types and parameter values via MIDI messages, see XG Native Parameter Change, pages App-9 – 10.

About MIDI & The CBX-K1XG

■ What is MIDI?

MIDI is an acronym that stands for Musical Instrument Digital Interface, which allows electronic musical instruments to “communicate” with each other, by sending and receiving compatible Note, Control Change, Program Change and various other types of MIDI data, or messages.

■ MIDI Messages Received by the CBX-K1XG

The CBX-K1XG is controlled by various types of incoming MIDI messages which automatically determine play mode, select MIDI channels, Voices and effects, change parameter values, and of course play the Voices specified for the various Parts—complete with all the subtle nuances and powerful dynamics of expression that the composer originally intended. Below are short explanations of the more important MIDI messages which the CBX-K1XG can transmit and receive. These messages can be transmitted/received via the MIDI IN/OUT terminals or the TO HOST terminal. Most of the messages can also be “played” or sent to the tone generator directly from the keyboard and controllers of the CBX-K1XG itself.

● Key On/Key Off

Key On/Key Off messages, also called Note messages, tell the CBX-K1XG which notes to play, the Velocity value (depending on how hard the keys are struck) at which to play them, and how long to play them—i.e., when to start (On) and stop (Off) playing each note.

● Control Change

Control Change messages let you select a Voice bank, control volume, panning, modulation, portamento time, brightness and various other controller parameters, through specific Control Change numbers which correspond to each of the various parameters.

● Program Change

Program Change messages tell the CBX-K1XG which Voice to select for each Part. You can insert Program Change messages at any desired location in a song. Combining Bank Select numbers lets you select various Voices from the hundreds of Voices available in the CBX-K1XG.

● Pitch Bend

Pitch Bend messages are continuous controller messages that allow the pitch of designated notes to be raised or lowered by a specified amount over a specified duration.

● Channel After Touch

Channel After Touch is a pressure sensing function which lets you control various functions by how hard you press the keys, over the entire channel.

NOTE ■ *The keyboard of the CBX-K1XG does not transmit After Touch messages. However, they can be transmitted from the ASSIGNABLE Wheel (when set to controller number 142 or 143).*

● Polyphonic After Touch

Polyphonic After Touch is a pressure sensing function which lets you control various functions by how hard you press the keys, for each individual key.

● System Exclusive

System Exclusive messages control various functions of the CBX-K1XG, including master volume and master tuning, play mode (XG, CM, or TG300B), effect type and various other parameters specifically related to the CBX-K1XG.

NOTE ■ *The CBX-K1XG is capable of sending any type of System Exclusive message (via the MIDI OUT or TO HOST terminals). The tone generator likewise can respond to any relevant System Exclusive message (see the MIDI Data Format section for details). However, when the tone generator is controlled directly from the panel and keyboard, it only responds to certain System Exclusive messages.*

■ MIDI Data Transmission/Reception Indications

When MIDI data is transmitted or received, the following indications appear in the LED display.

- When a MIDI message is transmitted from the CBX-K1XG:



LED flashes briefly to indicate MIDI message is sent.

- When receiving note on data:



One dot flashes.

- When receiving system exclusive data:



Two dots flash.

- When receiving mode change messages (such as XG, DOC, etc.):



Three dots flash.

NOTE ■ *For the above three receive conditions (note on, system exclusive, and mode change), the corresponding dot or dots do not flash when **SHIFT** is being held down.*

■ Response of the CBX-K1XG During MIDI Buffer Full Errors

When a MIDI buffer full error occurs, the CBX-K1XG responds as follows:

1. Merge is set to OFF.
2. Hold 1 Off, All Note Off, All Sound Off messages are transmitted over all channels.
3. The OCTAVE ► lamp flashes, indicating a MIDI buffer full error.

■ Merge-related Notes

When MIDI Merge is set to ON, MIDI messages received from an external device are merged with the data generated by the CBX-K1XG, and are transmitted as is from MIDI OUT. However, there are some exceptions, as listed below:

- * All Note Off messages (<<Bn 7B 00>>) will not be merged.
- * When the CBX-K1XG is set to send <<F8>> messages, <<F8>> messages from an external device will **not** be merged.
- * When the CBX-K1XG is **not** set to send <<F8>> messages, <<F8>> messages from an external device **can** be merged.
- * <<FE>> will not be merged.
- * With the exception of System Exclusive data, messages not conforming to the legal byte format will not be merged. System Exclusive data that doesn't conform to the legal byte format can be merged.
- * When Merge is set to on, and RPN/NRPN messages are sent from both the CBX-K1XG and an external device connected to MIDI IN, the resulting messages will be mixed and corrupted.

- * When Merge is turned off while a key is held, a stuck note results. This is because the CBX-K1XG simply turns Merge off, without changing the Note On status.
- * Running Status bytes are not used. However, incoming Running Status messages are added and transmitted.
- * If the incoming Note Off messages include <<8n>> status, the <<8n>> status is merged and output as is. (The CBX-K1XG transmits Note Off messages as <<9n>> status with a velocity of 0.)

During merging of System Exclusive data, all operations from the CBX-K1XG are ignored, and <<FE>> and <<F8>> messages from the CBX-K1XG will be stopped. This may cause some problems, as listed below:

- * Any operations executed from the CBX-K1XG, in the middle of a System Exclusive message (<<F0-F7>>) sent from an external device, are ignored. CBX-K1XG operations that start before or end after the System Exclusive message will be incomplete. To avoid this problem, be careful not to execute operations from both the CBX-K1XG and the external device at the same time. Also:
- * If the Merge function is not needed, turn Merge off or disconnect the MIDI cable.
- * Do not operate the CBX-K1XG during reception of large System Exclusive messages, such as bulk dumps.

■ Decimal - Hexadecimal Conversion Chart

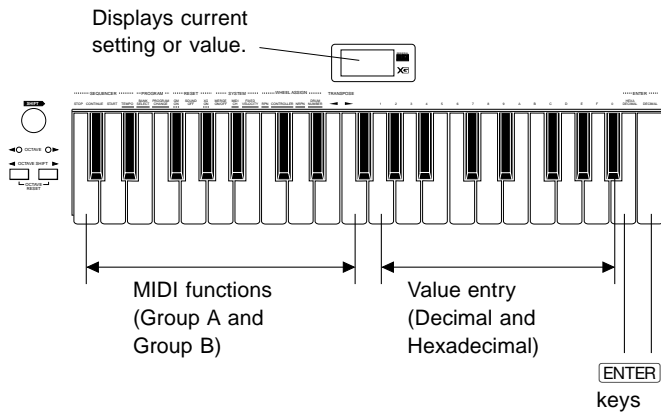
Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex
0	00	16	10	32	20	48	30	64	40	80	50	96	60	112	70
1	01	17	11	33	21	49	31	65	41	81	51	97	61	113	71
2	02	18	12	34	22	50	32	66	42	82	52	98	62	114	72
3	03	19	13	35	23	51	33	67	43	83	53	99	63	115	73
4	04	20	14	36	24	52	34	68	44	84	54	100	64	116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

Many MIDI messages listed in the MIDI Data Format section, beginning on page App-1, are expressed in hexadecimal numbers. The chart lists the corresponding decimal number for each hexadecimal number. (Hexadecimal numbers may include the letter "H" as a suffix.) When entering/transmitting MIDI messages directly from the CBX-K1XG, be sure to press DECIMAL ENTER to send a decimal value and HEXADEDECIMAL ENTER to send a hexadecimal value.

Using the SHIFT-Related Functions

The enormous flexibility and power of the CBX-K1XG is in its “hidden” or SHIFT-related functions — allowing you to send virtually any kind of MIDI message directly from the keyboard or use the ASSIGNABLE Wheel for real-time control change.

Many of the functions can be done with one or two key-strokes, while others require you to enter a number value and press one of the **ENTER** keys to execute the function. All functions can be accessed or executed by using one of the operations described below.



The MIDI functions can be generally divided into three types, according to their operation.

1) Holding **SHIFT and pressing the function’s key.** For these functions, such as Sequencer Stop and Start, pressing **ENTER** is not necessary. These functions are shown on the panel without underline.

2) Holding **SHIFT, pressing the function’s key and then **ENTER**.** These functions are indicated with a dashed underline on the panel (for example, GM ON and XG ON) and require pressing **ENTER** to execute.

3) Holding **SHIFT, pressing the function’s key, entering a value and then pressing **ENTER**.** These functions are indicated with an underline on the panel (for example, PROGRAM CHANGE and TEMPO), and require that a value (Decimal or Hexadecimal) be entered.

When changing a function, the LED display indicates the on/off status or the value of the function.

● **In using the SHIFT-related functions, remember: Keep holding down **SHIFT** until the end of the operation. If **SHIFT** is released in mid-operation, you’ll have to start the operation all over again.**

In the instructions that follow, “**ENTER**” refers to either of the **ENTER** keys, **HEXADECIMAL ENTER** or **DECIMAL ENTER**. In other words, this means that either key can be used, unless indicated otherwise.

NOTE ■ *The LED display and the ◀OCTAVE / OCTAVE▶ lamps flash briefly when a function is executed or a message is sent.*

● Functions Assigned to the Keyboard

Panel Name	Group A Function	Group B Function
STOP	Stop	Song Select
CONTINUE	Continue	Song Position Pointer
START	Start	Reset All Controllers
TEMPO	Tempo	—
BANK SELECT	Bank Select	Bulk Dump Out
PROGRAM CHANGE	Program Change	—
GM ON	GM Mode On	C/M Mode On
SOUND OFF	All Sound Off (each channel)	All Sound Off (all channels)
XG ON	XG System On	TG300B Reset
MERGE ON/OFF	Merge On/Off (each channel)	Local On/Off
MIDI CH	MIDI Channel	Merge On/Off (each channel)
FIXED VELOCITY	Fixed Velocity	Touch Sensitivity
RPN	Wheel Assign (RPN)	Controller Direct Data Send (RPN)
CONTROLLER	Wheel Assign (controller numbers 1–148)	Controller Direct Data Send (controller numbers 1–148)
NRPN	Wheel Assign (NRPN)	Controller Direct Data Send (NRPN)
DRUM NUMBER	Drum Number	Device Number
TRANPOSE ◀	Transpose Down	Wheel Invert
TRANPOSE ▶	Transpose Up	MSB/LSB Invert

Basic Operations

Selecting Group A and Group B Functions

● Selecting Group A Functions:

Hold down **SHIFT** and press the appropriate key. (See pages 30 – 31 for specific Group A functions and how to use them.)

● Selecting Group B Functions:

Hold down **SHIFT** and press **DECIMAL ENTER**. The Group B functions are available as long as you continue to hold down **SHIFT**. (See pages 32 – 33 for specific Group B functions and how to use them.)

Entering Values

Value entry on the CBX-K1XG can be done in two number systems: Decimal and Hexadecimal. The keys labeled A through F are for Hexadecimal entry.

● Entering a decimal value:

Hold down **SHIFT**, press the appropriate function key, enter the desired value in decimal format, then press **DECIMAL ENTER**.

● Entering a hexadecimal value:

Hold down **SHIFT**, press the appropriate function key, enter the desired value in hexadecimal format, then press **HEXADECFIMAL ENTER**.

Example — Setting the MIDI Transmit Channel to 12:

Decimal:

SHIFT + **MIDI CH** → **1** → **2** → **DECIMAL ENTER**

Hexadecimal:

SHIFT + **MIDI CH** → **C** → **HEXADECFIMAL ENTER**

* Also see the *Decimal-Hexadecimal Conversion Chart* on page 23.)

Value Entry — Some Specific Examples and Anomalies

● Using **DECIMAL ENTER**

Examples:

- * **1** → **2** → **DECIMAL ENTER**: results in a value of 12.
- * **A** → **DECIMAL ENTER**: results in a value of 10.
- * **2** → **A** → **DECIMAL ENTER**: results in a value of 210.
- * **A** → **2** → **DECIMAL ENTER**: results in a value of 102.
- * **3** → **A** → **DECIMAL ENTER**: results in a value of 310, which is ignored since it is outside the legal value range (0-255).

● Entering MSB/LSB Values with **DECIMAL ENTER** (3 digit bytes for MSB, 3 digit bytes for LSB; 6 digits total message). For messages beginning with zeroes, the first zeroes can be omitted.

Examples:

- * **3** → **DECIMAL ENTER**: results in a value of MSB = 000, LSB = 003.
- * **0** → **3** → **DECIMAL ENTER**: results in a value of MSB = 000, LSB = 003.
- * **1** → **0** → **0** → **3** → **DECIMAL ENTER**: results in a value of MSB = 001, LSB = 003.
- * **0** → **1** → **0** → **0** → **3** → **DECIMAL ENTER**: results in a value of MSB = 001, LSB = 003.

● Entering MSB/LSB Values with **HEXADECFIMAL ENTER** (2 digit bytes for MSB, 2 digit bytes for LSB; 4 digits total message). For messages beginning with zeroes, the first zeroes can be omitted.

Examples:

- * **3** → **HEXADECFIMAL ENTER**: results in a value of MSB = 00, LSB = 03.
- * **0** → **3** → **HEXADECFIMAL ENTER**: results in a value of MSB = 00, LSB = 03.
- * **1** → **0** → **3** → **HEXADECFIMAL ENTER**: results in a value of MSB = 01, LSB = 03.
- * **0** → **1** → **0** → **3** → **HEXADECFIMAL ENTER**: results in a value of MSB = 01, LSB = 03.

When entering MSB and LSB values, the LED display alternately flashes the MSB and LSB values.

NOTE ■ The order of MSB and LSB entry can be reversed. (See page 32.)

NOTES ON THE BASIC OPERATION

■ If you inadvertently press two or more function keys while performing a function, the last pressed key has priority.

■ If, after entering a value, you press another function key before pressing **ENTER**, the value will be cancelled.

■ If you enter a value that is outside of a function's range, it will be ignored. Legal messages can be one byte in length (a value from 0 - 255).

Setting the Functions

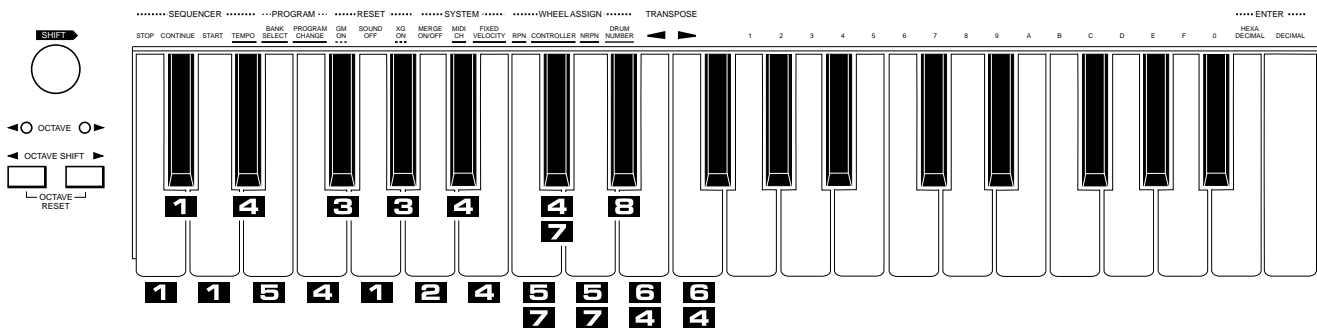
This section shows by example the operations for the basic functions.

* Unless indicated otherwise, **[ENTER]** refers to either of the **ENTER** keys, **[HEXADECIMAL ENTER]** or

[DECIMAL ENTER]. However, when you wish to enter a decimal value, make sure to press **[DECIMAL ENTER]**. Likewise, when entering a hexadecimal number, make sure to press **[HEXADECIMAL ENTER]**.

Group A Operations

● Numbers **1** - **8** in the illustration correspond to the operation numbers below.



1 Sending a Simple Command

Operation: **[SHIFT]** + Function Key
 Relevant Functions: Sequencer Stop/Continue/Start; Sound Off

● Example: Sending a Start command to a sequencer or rhythm machine

[SHIFT] + **[START]**

You can use the **[STOP]** and **[CONTINUE]** keys in the same way, to stop the sequencer or continue playback from the stopped point.

2 Setting a Simple Command (on/off)

Operation: **[SHIFT]** + Function Key
 Relevant Functions: Merge On/Off

● Example: Switching the MIDI Merge function of the CBX-K1XG on or off

[SHIFT] + **[MERGE ON/OFF]**

3 Sending a Simple Command with **[ENTER]**

Operation: **[SHIFT]** + Function Key → **[ENTER]**
 Relevant Functions: GM Mode On; XG System On

● Example: Setting the tone generator to XG Mode

[SHIFT] + **[XG ON]** → **[ENTER]**

NOTE ■ Either **[ENTER]** key can be used for these commands.

4 Setting a Specific Value for a Function

Operation: **[SHIFT]** + Function Key → Value → **[ENTER]**
 Relevant Functions: Tempo; Program Change; MIDI Channel; Fixed Velocity; Controller; Drum Number; Transpose Down/Up

● Example: Changing the tempo value on a sequencer or rhythm machine

[SHIFT] + **[TEMPO]** → **[1]** → **[4]** → **[0]** → **[DECIMAL ENTER]**

5

Setting a Specific Value for a Function (MSB, LSB)

Operation: **SHIFT** + Function Key → MSB value → LSB value → **ENTER**

Relevant Functions: Bank Select; RPN; NRPN

- Example: This example shows how to use the Bank Select function to select different banks. This example also shows you how to use the functions that require entry of two values: MSB and LSB.

In this example, we'll enter a value of 012 (MSB) 034 (LSB)

SHIFT + **BANK SELECT** → 0 → 1 → 2 → 0 → 3 → 4 → **DECIMAL ENTER**

NOTE ■ *Decimal values of MSB and LSB are 3 digits each (6 digits total); hexadecimal values are 2 digits each. Zeroes must be entered, unless they occur at the beginning of the value. For example, for the decimal value of 001 (MSB) 012 (LSB), the first two zeroes may be omitted, but the third must be entered. In other words, the value could be entered as 1 → 0 → 1 → 2.*

6

Transpose Setting

Operation: **SHIFT** + **TRANSPOSE** ◀ / **TRANSPOSE** ▶

To transpose up one semitone, use the **TRANSPOSE** ▶ key (F3). To transpose down one semitone, use the **TRANSPOSE** ◀ key (E3). Each repeated pressing of the key while holding **SHIFT** transposes the pitch by an additional semitone. To restore the normal default transpose setting, hold down **SHIFT** and press both **TRANSPOSE** ◀ / **TRANSPOSE** ▶ keys simultaneously.

NOTE ■ *You can also enter transpose values directly by using operation 4 above.*

7

Setting a Specific Value for a Specific Controller

Operation: **SHIFT** + Function Key → Controller Number → **ENTER** → Value(s) → **ENTER**

Relevant Functions: RPN*; Controller; NRPN*

Functions marked with an asterisk (*) above require that you enter two values: an MSB (Most Significant Byte) and an LSB (Least Significant Byte).

- Example: Changing the Portamento Time of the tone generator's voice to 25.

SHIFT + **CONTROLLER** → 5 (Portamento Time) → **ENTER** → {2 → 5 → **ENTER**}

The operation steps enclosed in brackets ({}) can be repeated or re-entered as long as **SHIFT** is held.

NOTE ■ *This operation assigns a controller number for the ASSIGNABLE Wheel and sends a specific value for that controller number. You can also send a specific value for the controller (in the Group B functions) without altering the controller assignment.*

8

Selecting a Drum Number (when editing a specific drum number with controller numbers 131 - 141)

You can use operation 4 above to set the drum number for editing a specific drum number with controller numbers 131 - 141. However, the following operation lets you set the Drum number by playing it from the keyboard. This allows you to hear the drum sound you'll be editing, since the last note played on the keyboard determines the drum sound to be changed.

Without pressing **SHIFT**, find the desired drum number by sound — by pressing keys on the keyboard. Next, hold down **SHIFT**, press **DRUM NUMBER**, then **ENTER**. This sets the drum number to the last key pressed. Then (to set the controller number for that drum sound), hold down **SHIFT** and press **CONTROLLER**, then enter the controller number (131 through 141). This sets the Controller Number for the Drum parameter you wish to control with the ASSIGNABLE Wheel.

Setting the Functions

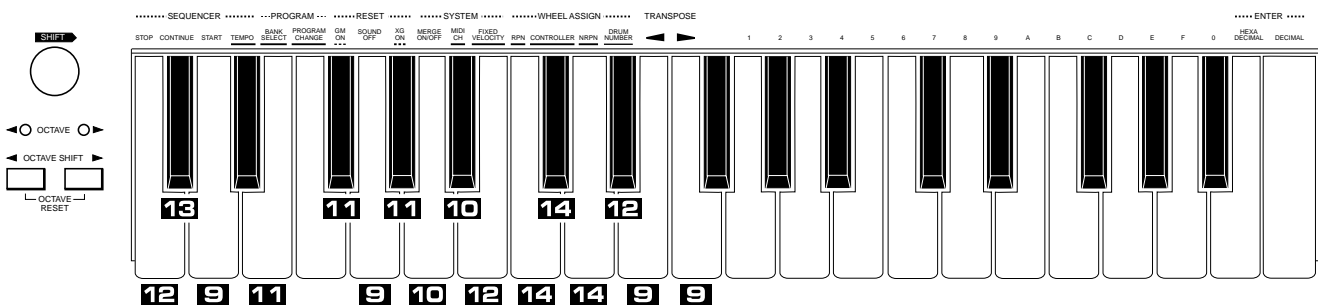
* Unless indicated otherwise, **[ENTER]** refers to either of the **ENTER** keys, **[HEXADECIMAL ENTER]** or **[DECIMAL ENTER]**. However, when you wish to enter a

decimal value, make sure to press **[DECIMAL ENTER]**. Likewise, when entering a hexadecimal number, make sure to press **[HEXADECIMAL ENTER]**.

Group B Operations

Group B function names are not shown on the panel. For the list and explanations of Group B functions, refer to pages 32 – 33.

● Numbers **9** - **14** in the illustration correspond to the operation numbers below.



9 Sending a Simple Command

Operation: **[SHIFT]** + **[DECIMAL ENTER]** → Function Key
 Relevant Functions: Reset All Controllers; Sound Off (all channels); Wheel Invert; MSB/LSB Invert

● Example: Sending a Reset All Controllers command to a sequencer or tone generator

[SHIFT] + **[DECIMAL ENTER]** → **[START]** (Reset All Controllers)

10 Setting a Simple Command (on/off)

Operation: **[SHIFT]** + **[DECIMAL ENTER]** → Function Key → Value
 Relevant Functions: Local On/Off; Merge On/Off (each channel)

● Example 1: Switching Local control on or off

[SHIFT] + **[DECIMAL ENTER]** → **[MERGE ON/OFF]** (Local On/Off)

● Example 2: Switching the MIDI Merge function of the CBX-K1XG on or off for MIDI channel 12

[SHIFT] + **[DECIMAL ENTER]** → **[MIDI CH]** (Merge On/Off for each channel) → **[C]** (for MIDI channel 12)

Keys **[1]** - **[F]** and **[0]** correspond to MIDI channel 1-15 and 16, respectively. Pressing each key toggles the on/off status of each channel.

11 Sending a Simple Command with **[ENTER]**

Operation: **[SHIFT]** + **[DECIMAL ENTER]** → Function Key → **[ENTER]**
 Relevant Functions: Bulk Dump Out; C/M Mode On; TG300B Reset

● Example: Sending the current CBX-K1XG settings to a MIDI storage device or sequencer with the Bulk Dump Out function

[SHIFT] + **[DECIMAL ENTER]** → **[BANK SELECT]** (Bulk Dump Out) → **[ENTER]**

12 Setting a Specific Value for a Function

Operation: **[SHIFT]** + **[DECIMAL ENTER]** → Function Key → Value → **[ENTER]**
 Relevant Functions: Song Select; Touch Sensitivity; Device Number

● Example: Changing the touch sensitivity of the CBX-K1XG to 10

[SHIFT] + **[DECIMAL ENTER]** → **[FIXED VELOCITY]** (Touch Sensitivity) → **[1]** → **[0]** → **[ENTER]**

13 Setting a Specific Value for a Function (MSB, LSB)

Operation: **SHIFT** + **DECIMAL ENTER** → Function Key → Values → **ENTER**
 Relevant Function: Song Position Pointer

- Example: Changing the song position pointer setting on a sequencer to MSB = 12, LSB = 34

SHIFT + **DECIMAL ENTER** → **CONTINUE** (Song Position Pointer) → **0** → **1** → **2** → **0** → **3** → **4** → **DECIMAL ENTER**

NOTE ■ *Decimal values of MSB and LSB are 3 digits each (6 digits total); hexadecimal values are 2 digits each. Zeroes must be entered, unless they occur at the beginning of the value. For the example above, the first zero may be omitted, but the second must be entered. In other words, the value could be entered as*

1 → **2** → **0** → **3** → **4**.

14 Setting a Specific Value for a Specific Controller

Operation: **SHIFT** + **DECIMAL ENTER** → Function Key → Controller Number → **ENTER** → Value(s) → **ENTER**
 Relevant Functions: RPN Direct Data Send*; Controller Direct Data Send; NRPN Direct Data Send*
 Functions marked with an asterisk (*) above require that you enter two values: an MSB (Most Significant Byte) and an LSB (Least Significant Byte).

- Example: Changing the Portamento Time of the tone generator's voice to 25.

SHIFT + **DECIMAL ENTER** → **CONTROLLER** → **5** (Portamento Time) → **ENTER** → { **2** → **5** → **ENTER** }

The operation steps enclosed in brackets ({}) can be repeated or re-entered as long as **SHIFT** is held.

NOTE ■ *This operation assigns a controller number for the ASSIGNABLE Wheel **without** altering the controller assignment.*

15 Sending a Single-Byte Data Message

This function allows you to quickly and easily send a non-standard MIDI message of a single byte. The effective range of this function is from 0-255; values outside of this range will be ignored.

Operation: **SHIFT** + **DECIMAL ENTER** → Value → **ENTER**

- Example: Sending a (decimal) value of 252

SHIFT + **DECIMAL ENTER** → { **2** → **5** → **2** → **DECIMAL ENTER** }

The operation steps enclosed in brackets ({}) can be repeated or re-entered as long as **SHIFT** is held.

Group A Functions — List

Press and hold **SHIFT** while performing the operation steps for the desired Group A function.
For detailed explanations on the basic operations, refer to

pages 25 – 27. The numbered footnotes that follow these charts provide additional details on certain operations.

Key	Panel Name	Function	Operation Steps	Operation Examples (see page 26)
C2	STOP	Stop	SHIFT + [STOP]	1
C#2	CONTINUE	Continue	SHIFT + [CONTINUE]	1
D2	START	Start	SHIFT + [START]	1
D#2	TEMPO	Tempo	SHIFT + [TEMPO] → [Value] → [ENTER]	4
E2	BANK SELECT	Bank Select *1	SHIFT + [BANK SELECT] → [MSB] → [LSB] → [ENTER]	5
F2	PROGRAM CHANGE	Program Change *2	SHIFT + [PROGRAM CHANGE] → [Value] → [ENTER]	4
F#2	GM ON	GM Mode On	SHIFT + [GM ON] → [ENTER]	3
G2	SOUND OFF	All Sound Off (each channel)	SHIFT + [SOUND OFF]	1
G#2	XG ON	XG System On	SHIFT + [XG ON] → [ENTER]	3
A2	MERGE ON/OFF	Merge On/Off *3 *4 (all channels)	SHIFT + [MERGE ON/OFF]	2
A#2	MIDI CH	MIDI Channel *5	SHIFT + [MIDI CH] → [Value] → [ENTER]	4
B2	FIXED VELOCITY	Fixed Velocity	SHIFT + [FIXED VELOCITY] → [Value] → [ENTER]	4
C3	RPN	Wheel Assign (RPN) *6	SHIFT + [RPN] → [MSB] → [LSB] → [ENTER]	5 7
C#3	CONTROLLER	Wheel Assign (controller number) *6	SHIFT + [CONTROLLER] → [Value] → [ENTER]	4 7
D3	NRPN	Wheel Assign (NRPN) *6	SHIFT + [NRPN] → [MSB] → [LSB] → [ENTER]	5 7
D#3	DRUM NUMBER	Drum Number	Before executing the operation below, use the keyboard to select the desired drum sound (see page 27). SHIFT + [DRUM NUMBER] → [ENTER]	8
E3	TRANPOSE ◀	Transpose Down *7	SHIFT + [TRANPOSE ◀] → ••••	6 4
F3	TRANPOSE ▶	Transpose Up *7	SHIFT + [TRANPOSE ▶] → ••••	6 4

● Footnotes

- *1 When entering Bank numbers, the internal tone generator ignores invalid Bank numbers (even if the Bank on a connected tone generator has changed).
- *2 The actual program change number transmitted by the CBX-K1XG is the displayed number minus 1. For example, program number 001 on the display is actually transmitted as 000.
When entering program numbers, the internal tone generator ignores invalid program numbers (even if the

program on a connected tone generator has changed). When stepping up or down through program numbers, “empty” programs or Voices in a Bank are skipped, and the next available program is automatically selected. Program numbers can also be selected without pressing PROGRAM CHANGE (by entering only the value and pressing ENTER).

- *3 When a MIDI buffer full error message results, MIDI Merge is automatically set to OFF.

Group A Functions — List

* MIDI: MIDI OUT and TO HOST, Int.: Internal tone generator.

Explanation	Transmitted to*		Range (Hexadecimal in parentheses)	Default Setting	MIDI Code
	MIDI	Int.			
Stop command for sequencer/rhythm machine.	Y	N	—	—	<<FC>>
Continue command for sequencer/rhythm machine.	Y	N	—	—	<<FB>>
Start command for sequencer/rhythm machine.	Y	N	—	—	<<FA>>
Tempo entry for sequencer/rhythm machine. Setting this to 0 disables the MIDI clock transmission. When ASSIGNABLE Wheel is set to Tempo (cntrl. no. 148), this is inactive.	Y	N	0, 20-300 (0, 14-12C) (0: MIDI clock off)	0 (oFF)	<<F8>>
This allows selection of voice banks on the tone generator. The bank select message must include both MSB and LSB values.	Y	Y	MSB: 000-127 (00-7F) LSB: 000-127 (00-7F)	—	<<Bn 00 msb, Bn 20 lsb, Cn pp>>
This allows entry of program numbers. Stepping up or down through program numbers is also possible by holding down SHIFT and using the ◀OCTAVE SHIFT / OCTAVE SHIFT▶ buttons; see page 15.	Y	Y	1-128 (1-80)	1	<<Cn pp>>
This resets the tone generator to General MIDI operation. WARNING: Be careful when using this, since it automatically changes whatever settings you've made on the tone generator. (Only GM-compatible tone generators respond to this message.)	Y	Y	—	—	<<F0 7E 7F 09 01 F7>>
This turns all sounds off over the current MIDI channel. To turn all sounds off for all MIDI channels, use All Sound Off in Group B.	Y	Y	—	—	<<Bn 78 00>>
This resets the tone generator to XG operation. WARNING: Be careful when using this, since it automatically changes whatever settings you've made on the tone generator. (Only XG-compatible tone generators respond to this message.)	Y	Y	—	—	<<F0 43 1s 4C 00 00 7E 00 F7>>
When set to ON, this merges all data received at MIDI IN with the data generated by the CBX-K1XG. Merge can be set independently for each channel in the Group B functions.	—	—	on, oFF	oFF	—
This determines the MIDI transmit channel for the CBX-K1XG. This should be set to match the MIDI receive channel of the connected MIDI device.	—	—	1-16 (1-10)	1	—
This sets a fixed velocity value for the keyboard; in other words, playing the keyboard at any strength results in a certain velocity value. When this is set to 0 (initial touch on), Touch Sensitivity can be set in the Group B functions. When ASSIGNABLE Wheel is set to Velocity (147), this is inactive.	—	—	0, 1-127 (0, 1-7F)	0 (oFF)	—
This determines the RPN (Registered Parameter Number) for the ASSIGNABLE Wheel. This function should be used for all RPN's not listed on the panel. The message must include both MSB and LSB values.	—	—	MSB: 000-127 (00-7F) LSB: 000-127 (00-7F)	—	<<Bn 64 lsb, Bn 65 msb, Bn 06 vv>>
This determines the Controller Number for the ASSIGNABLE Wheel. Though not all are listed on the panel, any of the standard Control Change numbers (0 -119) can be assigned. (For a complete list of the available Controllers and their numbers, see page 34.)	—	—	0-148 (0-94)	1	<<Bn gg vv>>
This determines the NRPN (Non-Registered Parameter Number) for the ASSIGNABLE Wheel. This function should be used for all NRPN's not listed on the panel. The message must include both MSB and LSB values.	—	—	MSB: 000-127 (00-7F) LSB: 000-127 (00-7F)	—	<<Bn 62 lsb, Bn 63 msb, Bn 06 vv>>
This determines the drum number for use with the drum-related controller numbers (131-141).	—	—	0-127 (00-7F)	0	—
This lowers the key transposition by the specified amount (in semitones).	—	—	0-12 (0-C)	0	—
This raises the key transposition by the specified amount (in semitones).	—	—	0-12 (0-C)	0	—

*4 Using system exclusive messages to turn Merge on or off can only be done for all channels (as in the corresponding Group A function).

*5 Incoming MIDI data is ignored during the operation.

*6 To send a specific value for the current control number assignment of the Wheel, hold down **SHIFT**, enter the desired value, and press **ENTER**. However, this cannot be done with controller numbers 143 (Polyphonic Key Pressure), 147 (Velocity), or 148 (Tempo).

When MSB and LSB values are entered, the LED display alternately flashes the MSB and LSB values. When no values have been entered, “- - -” appears in the LED display.

*7 Transpose can be done in two ways: by repeatedly pressing the appropriate TRANSPOSE key or by entering the transpose value directly after pressing the appropriate TRANSPOSE key. To restore the normal transpose setting, hold **SHIFT** and press both **TRANSPOSE ◀** / **TRANSPOSE ▶** keys simultaneously.

Group B Functions — List

To select the Group B functions, hold down **SHIFT** and press **DECIMAL ENTER**. Continue holding **SHIFT** while performing the operation steps for the desired Group B function.

For detailed explanations on the basic operations, refer to pages 25 and 28 – 29. The numbered footnotes that follow these charts provide additional details on certain operations.

Key	Panel Name	Function	Operation Steps	Operation Examples (see page 28)
C2	STOP	Song Select	SHIFT + DECIMAL ENTER → STOP → [Value] → ENTER	12
C#2	CONTINUE	Song Position Pointer	SHIFT + DECIMAL ENTER → CONTINUE → [MSB] → [LSB] → ENTER	13
D2	START	Reset All Controllers	SHIFT + DECIMAL ENTER → START	9
D#2	TEMPO	—	—	—
E2	BANK SELECT	Bulk Dump Out	SHIFT + DECIMAL ENTER → BANK SELECT → ENTER	11
F2	PROGRAM CHANGE	—	—	—
F#2	GM ON	C/M Mode On	SHIFT + DECIMAL ENTER → GM ON → ENTER	11
G2	SOUND OFF	All Sound Off (all channels)	SHIFT + DECIMAL ENTER → SOUND OFF	9
G#2	XG ON	TG300B Reset	SHIFT + DECIMAL ENTER → XG ON → ENTER	11
A2	MERGE ON/OFF	Local On/Off	SHIFT + DECIMAL ENTER → MERGE ON/OFF	10
A#2	MIDI CH	Merge On/Off (each channel) *1	SHIFT + DECIMAL ENTER → MIDI CH → [Value]	10
B2	FIXED VELOCITY	Touch Sensitivity *2	SHIFT + DECIMAL ENTER → FIXED VELOCITY → [Value] → ENTER	12
C3	RPN	Controller Direct Data Send (RPN) *3	SHIFT + DECIMAL ENTER → RPN → [MSB] → [LSB] → ENTER → [Value] → ENTER	14
C#3	CONTROLLER	Controller Direct Data Send (controller numbers on panel) *3	SHIFT + DECIMAL ENTER → CONTROLLER → [Value] → ENTER → [Value] → ENTER	14
D3	NRPN	Controller Direct Data Send (NRPN) *3	SHIFT + DECIMAL ENTER → NRPN → [MSB] → [LSB] → ENTER → [Value] → ENTER	14
D#3	DRUM NUMBER	Device Number *4	SHIFT + DECIMAL ENTER → DRUM NUMBER → [Value] → ENTER	12
E3	TRANPOSE ◀	Wheel Invert *5	SHIFT + DECIMAL ENTER → TRANPOSE ◀	9
F3	TRANPOSE ▶	MSB/LSB Invert *6	SHIFT + DECIMAL ENTER → TRANPOSE ▶	9
--		Single-Byte Data Send	SHIFT + DECIMAL ENTER → [Value] → ENTER	15

● Footnotes

- *1 Using system exclusive messages to turn Merge on or off can only be done for all channels (as in the corresponding Group A function).
- *2 When Fixed Velocity (in Group A) is set to a value other than 0, the Touch Sensitivity function is inactive. The following table shows the velocity range for the minimum, medium, and maximum Touch Sensitivity settings.

Touch Sensitivity Value	1 (1)	5 (5)	10 (A)
Velocity Range	32-127 (20-7F)	16-127 (10-7F)	1-127 (01-7F)

- *3 To send a specific value for the current control number assignment of the Wheel, hold down **SHIFT**, enter the desired value, and press **ENTER**. However, this cannot be done with controller numbers 143 (Polyphonic Key Pressure), 147 (Velocity), or 148 (Tempo).

Group B Functions — List

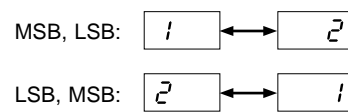
* MIDI: MIDI OUT and TO HOST, Int.: Internal tone generator.

Explanation	Transmitted to*		Range (Hexadecimal in parentheses)	Default Setting	MIDI Code
	MIDI	Int.			
Song Select command for sequencer/rhythm machine.	Y	N	0-127 (0-7F)	—	<<F3 SS>>
Song Position Pointer for sequencer/rhythm machine.	Y	N	MSB: 000-127 (00-7F) LSB: 000-127 (00-7F)	—	<<F2 lsb msb>>
This resets all MIDI controller values to their reset values (minimum or center).	Y	Y	—	—	<<Bn 79 00>>
—	—	—	—	—	—
This sends various current settings of the CBX-K1XG as a system exclusive bulk data dump. Dashes flash in the LED display while the operation is in progress. Data saved to a MIDI storage device in this fashion can be restored by simply sending it back to the CBX-K1XG. Incoming MIDI data is ignored during the operation.	Y	N	—	—	—
—	—	—	—	—	—
This sets the internal tone generator to the C/M mode. When set to C/M mode, reception over MIDI channel 1 is turned off, and the tone generator Voices will not sound for that channel.	N	Y	—	—	—
This turns all sounds off over all MIDI channels. To turn all sounds off for one specific MIDI channel, use SOUND OFF in Group A.	Y	Y	—	—	<<B0 78 00, B1 78 00, ..., BF 78 00>>
This performs a TG300B reset on the tone generator.	Y	Y	—	—	<<F0 41 10 42 12 40 00 7F 00 41 F7>>
This enables (on) or disables (off) keyboard control over the internal tone generator. When set to off, the internal Voices do not sound when playing the keyboard; only an external connected tone generator responds to keyboard/controller data.	—	—	on, off	on	—
This merges all data received over the selected MIDI channel with the data generated by the CBX-K1XG. This function can be set independently for each channel.	—	—	on, off	on	—
This determines the relative velocity sensitivity of the CBX-K1XG keyboard. The lower the Touch Sensitivity value, the higher the output velocity becomes. In other words, when this is set to a value near 0, the less playing strength that is needed to get a louder sound from the tone generator.	—	—	1-10 (1-A) 1: easy-10: hard	5	—
This allows you to directly send a specific value for a selected RPN controller number, without altering the current controller assignment of the ASSIGNABLE Wheel.	Y	Y	MSB: 000-127 (00-7F) LSB: 000-127 (00-7F) Value: 0-127 (0-7F)	—	<<Bn 64 lsb, Bn 65 msb, Bn 06 vv>>
This allows you to directly send a specific value for a selected Control Change controller number, without altering the current controller assignment of the ASSIGNABLE Wheel.	Y	Y	Controller number: 0-148 (0-94) Value: 0-127 (0-7F)	—	<<Bn gg vv>>
This allows you to directly send a specific value for a selected NRPN controller number, without altering the current controller assignment of the ASSIGNABLE Wheel.	Y	Y	MSB: 000-127 (00-7F) LSB: 000-127 (00-7F) Value: 0-127 (0-7F)	—	<<Bn 62 lsb, Bn 63 msb, Bn 06 vv>>
This determines the Device Number when independently transmitting certain messages (such as XG On and Master Tuning) to more than one connected MIDI devices.	—	—	0, 1-16 (0, 1-10)	0 (RL L)	—
This inverts the operation of both Wheels, for ease in playing the CBX-K1XG as a hand-held keyboard. An alternate way to change this setting is to simultaneously hold down [OCTAVE SHIFT] and turn on the power.	—	—	—	Maximum value is toward rear panel.	—
This inverts the MSB/LSB entry (so that LSB precedes MSB). An alternate way to change this setting is to simultaneously hold down [OCTAVE SHIFT] and turn on the power.	—	—	—	MSB precedes LSB	—
This sends a data message of a single byte. (See page 29.)	Y	N	0-255 (0-FF)	—	<<xx>>

***4** The 0 (RL L) setting applies only to the internal tone generator. When this is set to 0, a device number of 1 is sent via MIDI or TO HOST.

***5** In normal wheel operation, pitch is bent upward (for the PITCH Wheel) and maximum values result (for the ASSIGNABLE Wheel) when the wheel is moved toward the rear panel. When changing the setting, the LED display indicates the direction selected: upward flashing segments indicate normal operation, and downward flashing indicates inverted operation.

***6** When the MSB/LSB entry order is changed, the LED display appears as follows to indicate the data order:



ASSIGNABLE Wheel — Controller Number List

For further details on these various control numbers refer to the MIDI Data Format supplement.

No.	Controller Name	Data Format	MIDI Code	Direct Data Send Range (Hexadecimal in parentheses)
1	Modulation Depth	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
2	Breath Control	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
4	Foot Control	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
5	Portamento Time	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
6	Data Entry	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
7	Main Volume	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
8	Balance Control	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
10	Pan	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
11	Expression	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
64	Hold 1 (Damper)	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
65	Portamento	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
66	Sostenuto (Chord Hold)	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
67	Soft Pedal	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
69	Hold 2 (Freeze)	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
71	Harmonic Content	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
72	Release Time	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
73	Attack Time	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
74	Brightness	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
84	Portamento Control	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
91	Reverb Depth	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
92	Tremolo Depth	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
93	Chorus Depth	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
94	Variation Depth	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
95	Phaser Depth	Control Change	<<Bn gg vv>>	000-064-127 (00-40-7F)
120	Pitch Bend Sensitivity	RPN	<<Bn 64 00, Bn 65 00, Bn 06 vv>>	000-064-127 (00-40-7F)
121	Fine Tuning	RPN	<<Bn 64 01, Bn 65 00, Bn 06 vv>>	000-064-127 (00-40-7F)
122	Coarse Tuning	RPN	<<Bn 64 02, Bn 65 00, Bn 06 vv>>	000-064-127 (00-40-7F)
123	Vibrato Rate	NRPN	<<Bn 62 08, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
124	Vibrato Depth	NRPN	<<Bn 62 09, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
125	Vibrato Delay	NRPN	<<Bn 62 0A, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
126	Filter Cutoff Frequency	NRPN	<<Bn 62 20, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
127	Filter Resonance	NRPN	<<Bn 62 21, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
128	EG Attack Time	NRPN	<<Bn 62 63, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
129	EG Decay Time	NRPN	<<Bn 62 64, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
130	EG Release Time	NRPN	<<Bn 62 66, Bn 63 01, Bn 06 vv>>	000-064-127 (00-40-7F)
131	Drum Filter Cutoff Frequency	NRPN	<<Bn 62 rr, Bn 63 14, Bn 06 vv>>	000-064-127 (00-40-7F)
132	Drum Filter Resonance	NRPN	<<Bn 62 rr, Bn 63 15, Bn 06 vv>>	000-064-127 (00-40-7F)
133	Drum EG Attack Rate	NRPN	<<Bn 62 rr, Bn 63 16, Bn 06 vv>>	000-064-127 (00-40-7F)
134	Drum EG Decay Rate	NRPN	<<Bn 62 rr, Bn 63 17, Bn 06 vv>>	000-064-127 (00-40-7F)
135	Drum Pitch Coarse	NRPN	<<Bn 62 rr, Bn 63 18, Bn 06 vv>>	000-064-127 (00-40-7F)
136	Drum Pitch Fine	NRPN	<<Bn 62 rr, Bn 63 19, Bn 06 vv>>	000-064-127 (00-40-7F)
137	Drum Level	NRPN	<<Bn 62 rr, Bn 63 1A, Bn 06 vv>>	000-064-127 (00-40-7F)
138	Drum Pan	NRPN	<<Bn 62 rr, Bn 63 1C, Bn 06 vv>>	000-064-127 (00-40-7F)
139	Drum Reverb Depth	NRPN	<<Bn 62 rr, Bn 63 1D, Bn 06 vv>>	000-064-127 (00-40-7F)
140	Drum Chorus Depth	NRPN	<<Bn 62 rr, Bn 63 1E, Bn 06 vv>>	000-064-127 (00-40-7F)
141	Drum Variation Depth	NRPN	<<Bn 62 rr, Bn 63 1F, Bn 06 vv>>	000-064-127 (00-40-7F)
142	Channel Pressure	After Touch	<<Dn vv>>	000-064-127 (00-40-7F)
143	Polyphonic Key Pressure	After Touch	<<An tt vv>>	— *1
144	Master Volume	System Exclusive Messages	<<F0 7F 7F 04 01 ll mm F7>>	000-064-127 (00-40-7F)
145	Master Balance	System Exclusive Messages	<<F0 7F 7F 04 02 ll mm F7>>	000-064-127 (00-40-7F)
146	Master Tuning	System Exclusive Messages	<<F0 43 ls 27 30 00 00 pm pl 00 F7>>	014-064-114 (0E-40-72) *2
147	Velocity	Others	*4	—
148	Tempo	Others	*5	— *3

● MIDI Code abbreviation key

- n: MIDI channel
- gg: Control number
- tt: Note number
- s: Device number
- rr: Drum number
- vv: 8-bit resolution of the Wheel movement (range: 00-7F)
- ll mm: 16-bit resolution of the Wheel movement (range: 0000-7FFF)
- pm pl: Wheel movement data of 8-bit values are divided into two bytes (with *pm* = upper half of 8 bits and *pl* = lower half of 8 bits), converting 1-byte data into 2-byte data, each consisting of 4 bits. The upper 4 digits are given values of 0 for both *pm* and *pl*.

● NOTE

Even though not all of the numbers are listed here, the ASSIGNABLE Wheel can be assigned to any of the standard Control Change numbers: 0 -119.

● Footnotes

- *1 This applies only to the highest note played. This control number is unrelated to polyphonic key pressure after touch in the MIDI standard.
- *2 Data from 00-0D is converted to a value of 0E, and data from 73-7F is converted to a value of 72.
- *3 When Tempo is assigned to the ASSIGNABLE Wheel, the range becomes 24-278.
- *4 This does not output MIDI code directly, but changes the velocity of the subsequently played notes.
- *5 This does not output MIDI code directly, but changes the time interval between transmitted MIDI clocks.

Troubleshooting

Even though the CBX-K1XG is easy to use, it may occasionally not function as you expect it to. If that happens, check the possible problems and solutions below before assuming that the instrument is faulty.

● (Problem)

— (Possible Cause and Solution)

● No sound.

- Controller data, such as Volume, Expression and Master Volume, may have been set to values too low to produce sound.
- The Fixed Velocity setting may be too low.

● No sound from the built-in speakers.

- Check that a set of headphones is not connected.
- Make sure that Local is set to On. (See page 32.)

● No data is sent via MIDI OUT.

- Make sure that the Host Select switch is set to MIDI.

● Cannot transmit data to or receive data from a computer connected to the TO HOST terminal.

- Make sure that the Host Select switch is set appropriately. If it is to MIDI, communication with the computer is disabled. (See pages 10 – 11.)

● When the power is turned off and on again, the settings you made have been cancelled.

- This is normal. The CBX-K1XG has no internal memory backup.

● Sound is cut off.

- When incoming active sensing messages exceed that allowed by the MIDI standard, the sound will automatically be cut off.

● A certain function does not respond or work properly.

- The connected MIDI device may not support the relevant function on the CBX-K1XG.

● Specific functions/messages cannot be executed or sent properly.

- While holding down **SHIFT** in the middle of an operation, you may have inadvertently released **SHIFT**. Make sure to hold down **SHIFT** for the duration of the operation.

● The connected device does not respond to MIDI clock messages, or MIDI clock messages are not sent.

- Make sure that the Tempo setting on the CBX-K1XG is set to a value other than $\square FF$. Also make sure that the connected device is set properly for receiving MIDI clock messages. If another device is connected to the MIDI IN of the CBX-K1XG and that device is sending the MIDI clock messages, Merge must be set to ON.

● The Tempo setting has no effect.

- The Tempo setting is inactive when Tempo is assigned to the ASSIGNABLE Wheel.

● With Merge set to ON, tempo change messages sent from an external device have no effect.

- If an external device is connected to the MIDI IN of the CBX-K1XG, and the CBX-K1XG is sending MIDI clock messages, the external device cannot be used to send MIDI clock messages.

● Sending a bank select message also sends a program change message.

- This is normal. The CBX-K1XG automatically sends the currently set program change number together with a bank select message.

● The RPN or NRPN controller number assigned to the ASSIGNABLE Wheel doesn't function properly.

● The RPN or NRPN direct data send function doesn't work properly.

- Please refer to the Merge-related Notes, page 23.

● Octave Shift function has no effect.

- Octave Shift cannot be changed while a key is being held down.

● The OCTAVE ► lamp flashes, indicating a MIDI buffer full error.

- A MIDI “loop” may have been set up. To remedy this, set the MIDI Merge and Local functions to OFF. (See pages 30 and 32.)
- Too much MIDI data (exceeding the receive capability of the CBX-K1XG) may have been received at MIDI IN.

● An “Err” message appears in the LED display.

- The battery power is too low for proper operation. Replace all batteries.

● The keyboard is not touch sensitive.

- Make sure that Fixed Velocity is set to $\square FF$.

● The Fixed Velocity setting has no effect.

- The Fixed Velocity setting is inactive when Velocity is assigned to the ASSIGNABLE Wheel.

● Even when Touch Sensitivity is active, the effective velocity range is narrower than expected.

- Please refer to Footnote #2 on page 32 for details on velocity range.

● The All Sound Off function has no effect.

- All Sound Off in the Group A functions only applies to the currently selected MIDI channel.

● The rightmost five keys of the keyboard do not sound at the expected pitch.

- When set to the highest octave range, the rightmost five keys are set to play notes G#4 (80) through C5 (84).

Troubleshooting

- **Some of the keys do not respond to after touch pressure when playing several notes simultaneously.**

- Polyphonic Key Pressure After Touch applies only to the highest note played.

- **Incoming data is not merged.**

- Make sure that Merge is set to ON. Make sure also that the Merge on/off function in Group B is set to ON for the relevant MIDI channel.

Make sure that the Host Select switch is set to MIDI.

- **Some messages cannot be merged.**

- Please refer to the Merge-related Notes, page 23.

- **Merge is inadvertently set to OFF.**

- When there is MIDI buffer full error, Merge is automatically turned off. Please also refer to the Merge-related Notes, page 23.

- **The tone generator continues to sound after a key is released.**

- This may happen depending on the Merge setting. Please refer to the Merge-related notes, page 23.

- **When turning Merge off, the connected tone generator continues to sound.**

- Please refer to the Merge-related Notes, page 23.

● About RPN and NRPN

Registered Parameter Numbers (RPN) are controllers that have been added to the MIDI specification and are common among various MIDI devices of different manufacturers. Unlike the Control Change numbers, these use messages composed of three bytes: MSB, LSB and Data Entry.

Non-Registered Parameter Numbers (NRPN) are controllers that have been created by one or more manufacturers, but have not been added to the MIDI specification.

Thus, NRPN functions may be found on some instruments and not others. The NRPN functions of the CBX-K1XG support all XG-compatible devices. Unlike the Control Change numbers, these use messages composed of three bytes: MSB, LSB and Data Entry.

Other RPN or NRPN messages not provided on the panel can be transmitted using the RPN or NRPN functions in Group A and B.

Specifications

- **Keyboard**

37 mini key keyboard (C2-C5), velocity responsive

- **Functions**

- **Basic:** Octave Shift (+/- 4 octaves), Pitch Bend, Assignable control, MIDI merge, Local
- **MIDI Data:** Sequencer Control, MIDI Clock, Bank Select, Program Change, GM Mode On, XG System On, TG300B Reset, Control Change, All Sound Off, Reset All Controllers, Bulk Dump, and others
- **Assignable Parameters:** Transpose (+/- 12 semitones), MIDI Transmit Channel, Fixed Velocity, Touch Sensitivity, Device Number, Merge On/Off (each channel)

- **Tone Generator**

AWM2 (Advanced Wave Memory 2)

- **Maximum Simultaneous Polyphony**

32-note (last-note priority)

- **Multitimbral Capacity**

16-Part (Dynamic Voice Allocation)

- **Internal Voices**

Normal Voices 737 + Drum Voice (Sets) 22

- **Effects**

Reverb, Chorus, Variation

- **Performance Mode**

XG, TG300B, C/M, DOC

- **Display**

LED (3-digit, 8-segment)

- **Controllers**

SHIFT button, OCTAVE SHIFT ◀▶ buttons and lamps, PITCH Wheel, ASSIGNABLE Wheel, VOLUME Control, HOST SELECT Switch, POWER Switch

- **Input/Output Terminals**

INPUT, OUTPUT L/R, PHONES, MIDI IN/OUT, SUSTAIN, TO HOST, DC IN

- **Power Supply**

Yamaha PA-3B or PA-1207 AC Power Adaptor, or six “LR6” size batteries (sold separately).

- **Power Consumption**

Ca. 9.5 W (with AC adaptor use)
Ca. 600 mA (with battery use)

- **Dimensions**

509 x 155 x 55 mm (20-1/16” x 6-1/8” x 2-3/16”)

- **Weight (without batteries)**

1.5 kg (3.3 lbs.)

- **Accessories**

AC adaptor (PA-3B, PA-1207 or an equivalent)
Owner’s Manual

* *Specifications and appearance subject to change without notice.*

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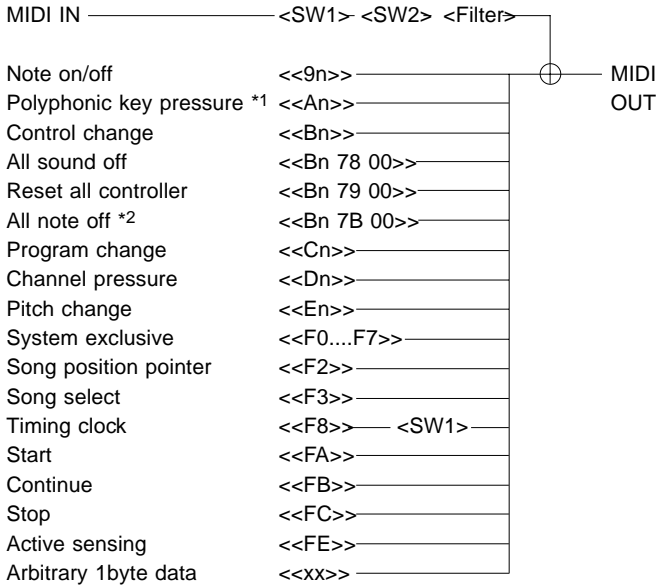
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Appendix

MIDI Data Format

■ MIDI Transmission

● Transmit Condition



- *1 This applies only to the highest note played.
- *2 This is output only when a MIDI buffer full error occurs.

<SW1> When the CBX-K1XG is set to send <<F8>> messages, <<F8>> messages from the CBX-K1XG will be output. When the CBX-K1XG is not set to send <<F8>> messages, <<F8>> messages from the CBX-K1XG will not be output, but <<F8>> messages from a connected external device will be merged.

<SW2> When Merge is set to ON, the incoming data is merged.

<Filter> This is Merge On/Off for each channel.

1. CHANNEL VOICE MESSAGES

1.1 Note On / Note Off

```

1001nnnn 9n Status      n=Channel number
0kkkkkkkk kk* Note #    k=0(C-2)...127(G8):C3=60
0vvvvvvvv vv Velocity   v=0:Note off,
                          v=1...127:Note on
    
```

* "kk" is the hexadecimal expression of 0kkkkkkk; same as for "tt", "aa", etc.

Messages which are generated when the keyboard is played.

Reception note range = C-2 (0) – G8 (127), C3 = 60

Velocity range = 1 – 127 (Only the Key On velocity is received)

Key On: Generated when a key is pressed.

Key Off: Generated when a key is released.

Each message includes a specific note number which corresponds to the key which is pressed, plus a velocity value based on how hard the key is struck.

1.2 Polyphonic Aftertouch

```

1010nnnn An Status      n=Channel number
0kkkkkkkk kk Note #    k=0(C-2)...127(G8):C3=60
0vvvvvvvv vv Value      v=0...127
    
```

Messages which let you control various functions by the pressure you apply to the keys after the initial striking of the keys.

When pressing several keys simultaneously, after touch of only the highest note number is output.

Though the keyboard of the CBX-K1XG itself has no after touch, after touch data can be transmitted from the ASSIGNABLE Wheel when Channel pressure or Polyphonic key pressure is assigned to the Wheel.

1.3 Control Change

```

1011nnnn Bn Status      n=Channel number
0ccccccc cc Control #
0vvvvvvvv vv ControlValue v=0...127
    
```

Messages which control volume, panning, and other controller parameters. Each type of Control Change message is assigned to a specific control number.

When RPN or NRPN is assigned to the ASSIGNABLE Wheel, the MSB, LSB and data entry values are transmitted in a group each time.

1.4 Program Change

```

1100nnnn Cn Status      n=Channel number
0pppppppp pp Program #  p=0...127
    
```

Messages for Voice selection.

With a combination of Bank Select, you can select not only basic Voice numbers, but also variation Voice bank numbers.

1.5 Channel Aftertouch

```

1101nnnn Dn Status      n=Channel number
0vvvvvvvv vv Value      v=0...127
    
```

Messages which let you control various functions by the pressure you apply to the keys after the initial striking of the keys, over the entire channel.

Though the keyboard of the CBX-K1XG itself has no after touch, after touch data can be transmitted from the ASSIGNABLE Wheel when Channel pressure or Polyphonic key pressure is assigned to the Wheel.

1.6 Pitch Bend

```

1110nnnn En Status      n=Channel number
01111111 11 Value LSB
0nnnnnnnn nn Value MSB
    
```

Messages for pitch bend wheel values.

Resolution is 7 bit. Transmission data is listed below.

MSB	LSB	
00000000 (00)	00000000 (00)	Min.
01000000 (40)	00000000 (00)	Center
01111111 (7F)	01111110 (7E)	Max.

2. CHANNEL MODE MESSAGES

2.1 All Sounds Off

```

1011nnnn Bn Status      n=Channel number
01111000 78
00000000 00
    
```

Terminates all sounds currently sounding on the specified channel.

2.2 Reset All Controllers

```
1011nnnn Bn Status n=Channel number
01111001 79
00000000 00
```

This resets all controllers on the specified channel.

2.3 All Notes Off

```
1011nnnn Bn Status n=Channel number
01111011 7B
00000000 00
```

Terminates all notes currently on for the specified channel.
This is transmitted only when a MIDI buffer full error occurs.

3. SYSTEM EXCLUSIVE MESSAGES

System Exclusive messages control various functions including master volume and master tuning, play mode, effect type and various other parameters.

3.1 Parameter Change

The CBX-K1XG receives the following parameter change messages.

[UNIVERSAL REALTIME MESSAGE]

- 1) Master Volume
- 2) Master Balance

[UNIVERSAL NON REALTIME MESSAGE]

- 1) General MIDI Mode On
- 2) Identity Reply (INQUIRY MESSAGE)

[XG NATIVE PARAMETER CHANGE]

- 1) XG System on
- 2) XG System Data parameter change
- 3) Multi Effect1 Data parameter change
- 4) Multi Part Data parameter change
- 5) Drums Setup Data parameter change

[OTHER]

- 1) Master Tuning
- 2) TG300 System Data Parameter change

3.1.1 Universal Realtime Messages

3.1.1.1 Master Volume

```
11110000 F0 Exclusive status
01111111 7F Universal Real Time
01111111 7F ID of target device
00000100 04 Sub-ID #1=Device Control Message
00000001 01 Sub-ID #2=Master Volume
00000000 00 Volume LSB
0tttttttt tt Volume MSB t=0...127
11110111 F7 End of Exclusive
```

3.1.1.2 Master Balance

```
11110000 F0 Exclusive status
01111111 7F Universal Real Time
01111111 7F ID of target device
00000100 04 Sub-ID #1=Device Control Message
00000010 02 Sub-ID #2=Master Balance
00000000 00 Balance LSB
0tttttttt tt Balance MSB t=0...127
11110111 F7 End of Exclusive
```

3.1.2 Universal Non-Realtime Messages

3.1.2.1 General MIDI Mode On

```
11110000 F0 Exclusive status
01111110 7E Universal Non-Real Time
01111111 7F ID of target device
00001001 09 Sub-ID #1=General MIDI Message
00000001 01 Sub-ID #2=General MIDI On
11110111 F7 End of Exclusive
```

3.1.2.2 Identity Reply

```
11110000 F0 Exclusive status
01111110 7E Universal Non-Real Time
0000nnnn nn Device Number, n= 0...15
00000110 06 Sub-ID #1=General Information
00000010 02 Sub-ID #2=Device Identity Reply
01000011 43 YAMAHA ID
00000000 00 Device Family Code LSB CBX-K1XG ID #1
01000001 41 Device Family Code MSB CBX-K1XG ID #2
01101011 6B Device Number Code LSB CBX-K1XG ID #3
00000001 01 Device Number Code MSB CBX-K1XG ID #4
00000000 00
00000000 00
00000000 00
00000001 01 XG ID
11110111 F7 End of Exclusive
```

This is transmitted by the CBX-K1XG when an Identity Request message (see 3.1.2.2 on page App-9) is received.

3.1.3 XG Native Parameter Change

```
11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
01001100 4C XG Model ID
0aaaaaaa aa Address High
0aaaaaaa aa Address Mid
0aaaaaaa aa Address Low
0ddddd dd Data
| |
11110111 F7 End of Exclusive
```

For parameters with data size of 2 or 4, transmit the appropriate number of data bytes.

3.1.3.1 XG System On

```
11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
01001100 4C XG Model ID
00000000 00 Address High
00000000 00 Address Mid
01111110 7E Address Low
00000000 00 Data
11110111 F7 End of Exclusive
```

This message changes the internal tone generator to the XG mode. Since approximately 50ms is required to execute this message, be sure to leave an appropriate interval before the subsequent message.

MIDI Data Format

3.1.3.2 XG System Data parameter change

This data is transmitted upon reception of a Dump Request message. See tables 1 - 1 and 1 - 2 (page App-12).

3.1.3.3 System information

This data is transmitted upon reception of a Dump Request message. See tables 1 - 1 and 1 - 3 (page App-12).

3.1.3.4 Multi Effect1 Data parameter change

This data is transmitted upon reception of a Dump Request message. See tables 1 - 1 and 1 - 4 (page App-12).

3.1.3.5 Multi Part Data parameter change

This data is transmitted upon reception of a Dump Request message. See tables 1 - 1 (page App-12) and 1 - 5 (page App-13).

3.1.3.6 Drums Setup Data parameter change

This data is transmitted upon reception of a Dump Request message. See tables 1 - 1 (page App-12) and 1 - 6 (page App-15).

3.1.4 Other parameter changes

3.1.4.1 Master Tuning

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
00100111 27 Model ID
00110000 30 Sub ID2
00000000 00
00000000 00
0nnnnnnnn nn Master Tune MSB
01111111 11 Master Tune LSB
0ccccccc cc irrelevant
11110111 F7 End of Exclusive
  
```

This message simultaneously changes the pitch of all channels.

3.2 Bulk Dump

The CBX-K1XG receives the following bulk dump data.

[XG NATIVE]

- 1) XG System Data
- 2) Multi Effect1 Data
- 3) Multi Part Data
- 4) Drums Setup Data

3.2.1 XG Native Bulk Dump

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0000nnnn 0n Device Number
01001100 4C XG Model ID
0bbbbbbb bb ByteCount
0bbbbbbb bb ByteCount
0aaaaaaa aa Address High
0aaaaaaa aa Address Mid
0aaaaaaa aa Address Low
0ddddddd dd Data
|
|
|
|
0ccccccc cc Check-sum
11110111 F7 End of Exclusive
  
```

For the Address and Byte Count, refer to the supplementary tables. The Check Sum is the value that results in a value of 0 for the lower 7 bits when the Start Address, Byte Count, plus the Check Sum itself are added.

Data of more than 256 bytes cannot be transmitted at once. When transmitting more than that amount, divide up the data into packets of 256 bytes or less and transmit them at intervals of 120 ms or longer.

3.2.1.1 XG System Data bulk dump

See tables 1 - 1 and 1 - 2 (page App-12).

3.2.1.2 Multi Effect1 Data bulk dump

See tables 1 - 1 and 1 - 4 (page App-12).

3.2.1.3 Multi Part Data bulk dump

See tables 1 - 1 (page App-12) and 1 - 5 (page App-13).

3.2.1.4 Drums Setup Data bulk dump

See tables 1 - 1 (page App-12) and 1 - 6 (page App-15).

4. SYSTEM COMMON MESSAGES

4.1 Song select

```

11110011 F3 Status
0vvvvvvvv vv Song # v=0...127
  
```

4.2 Song position pointer

```

11110010 F2 Status
01111111 11 Songposition pointer LSB l=0...127
0nnnnnnnn nn Songposition pointer MSB m=0...127
  
```

5. SYSTEM REALTIME MESSAGES

5.1 Timing clock

```

11111000 F8 Status
This is transmitted only when tempo is set.
  
```

5.2 Start

```

11111010 FA Status
  
```

5.3 Continue

```

11111011 FB Status
  
```

5.4 Stop

```

11111100 FC Status
  
```

5.5 Active Sensing

```

11111110 FE Status
  
```

6. SINGLE-BYTE DATA TRANSMISSION

6.1 Single-byte Data

Separate from conventional MIDI message transmission, single byte messages can also be transmitted.

■ MIDI Receive

By sending various types of MIDI messages you can directly control and change the settings on the CBX-K1XG.

The internal tone generator of the CBX-K1XG is capable of responding to MIDI messages. It can be controlled from the keyboard and panel of the CBX-K1XG itself or by MIDI messages received from an external MIDI device or sequencer. For more information on using the control functions of the CBX-K1XG, see page 24.

Please refer to the owner's manual of your software and hardware for information about how to transmit MIDI messages to the CBX-K1XG.

1. CHANNEL VOICE MESSAGES

1.1 Note Off

```
1000nnnn 8n Status      n=Channel number
0kkkkkkkk kk* Note number k=0(C-2)...127(G8):C3=60
0vvvvvvvv vv Velocity   v=0...127
* "kk" is the hexadecimal expression of 0kkkkkkk; same as
  for "tt", "aa", etc.
```

This message corresponds to releasing the key of a MIDI keyboard. Note off velocity is not received.

If the Multi Part parameter Rcv NOTE MESSAGE (page App-14) = OFF for a specific Part, that Part will ignore Key On and Key Off messages.

If the Drum Setup parameter Rcv NOTE OFF (page App-15) = OFF, the Drum Part will ignore Key Off messages.

1.2 Note On / Note Off

```
1001nnnn 9n Status      n=Channel number
0kkkkkkkk kk Note #     k=0(C-2)...127(G8):C3=60
0vvvvvvvv vv Velocity   v=0:Note off,
                          v=1...127:Note on
```

Messages which are generated when the keyboard is played.

Reception note range = C-2 (0) – G8 (127), C3 = 60

Velocity range = 1 – 127 (Only the Key On velocity is received)

Key On: Generated when a key is pressed.

Key Off: Generated when a key is released.

Each message includes a specific note number which corresponds to the key which is pressed, plus a velocity value based on how hard the key is struck.

If the Multi Part parameter Rcv NOTE MESSAGE (page App-14) = OFF for a specific Part, that Part will ignore Key On and Key Off messages.

If the Drum Setup parameter Rcv NOTE OFF (page App-15) = OFF, the Drum Part will ignore Key Off messages.

If the Drum Setup parameter Rcv NOTE ON = OFF (page App-15), the Drum Part will ignore Key On messages.

1.3 Polyphonic Aftertouch

```
1010nnnn An Status      n=Channel number
0kkkkkkkk kk Note #     k=0(C-2)...127(G8):C3=60
0vvvvvvvv vv Value       v=0...127
```

Messages which let you control various functions by the pressure you apply to the keys after the initial striking of the keys, for each individual key.

If the Multi Part parameter Rcv POLY AFTER TOUCH (PAT) (page App-14) = OFF, that Part will not receive Polyphonic Aftertouch. Effective range is between note numbers 36 – 97.

1.4 Control Change

```
1011nnnn Bn Status      n=Channel number
0ccccccc cc Control #
0vvvvvvvv vv ControlValue v=0...127
```

Messages which control volume, panning, and other controller parameters.

Each type of Control Change message is assigned to a specific control number.

If the Multi Part parameter for each Control Change Receive (page App-14, nn30 – nn40) = OFF, that Part will ignore the specific Control Change message.

1.4.1 Bank Select

Messages which select variation Voice bank numbers.

CNTRL#	PARAMETER	DATA RANGE
0	Bank Select MSB	0:Normal, 64:SFX, 126...127:Drum
32	Bank Select LSB	0...127

You can select the Voice banks with MSB and LSB numbers.

MSB and LSB functions differently depending on the play mode.

In XG mode, MSB numbers select Voice type (Normal Voice or Drum Voice), and LSB numbers select Voice banks.

In TG300B mode, LSB is fixed, and MSB numbers select Voice banks.

When the C/M mode is active, these messages are ignored.

(See Normal Voice List, Drum Voice List, from page App-17.)

A new bank selection will not become effective until the next Program Change message is received.

1.4.2 Modulation

Messages which control vibrato depth.

CNTRL#	PARAMETER	DATA RANGE
1	Modulation	0...127

A setting of 0 = vibrato off, and a setting of 127 = maximum vibrato.

1.4.3 Portamento Time

Messages which control the duration of portamento, or a continuous glide between successively played notes.

CNTRL#	PARAMETER	DATA RANGE
5	Portamento Time	0...127

When the parameter 1.4.9 Portamento = ON, values will adjust the speed of pitch change.

A setting of 0 = minimum portamento time, and 127 = maximum portamento time.

1.4.4 Data Entry

Messages which set the value for the parameter specified by RPN/NRPN.

CNTRL#	PARAMETER	DATA RANGE
6	Data Entry MSB	0...127
38	Data Entry LSB	0...127

Parameter value is determined by combining MSB and LSB.

MIDI Data Format

1.4.5 Main Volume

Messages which control the volume of each Part.

CNTRL#	PARAMETER	DATA RANGE
7	Main Volume	0...127

A setting of 0 = minimum volume, and 127 = maximum volume.

1.4.6 Pan

Messages which control the stereo panning position of each Part.

CNTRL#	PARAMETER	DATA RANGE
10	Pan	0...127

A setting of 0 = extreme left position, and 127 = extreme right position.

1.4.7 Expression

Messages which control intonation expression of each Part.

CNTRL#	PARAMETER	DATA RANGE
11	Expression	0...127

A setting of 0 = minimum expression volume, and 127 = maximum expression volume.

1.4.8 Hold1

Messages which control sustain on/off.

CNTRL#	PARAMETER	DATA RANGE
64	Hold1	0...127

Settings between 0 – 63 = sustain off, and settings between 64 – 127 = sustain on.

1.4.9 Portamento

Messages which control portamento on/off.

CNTRL#	PARAMETER	DATA RANGE
65	Portamento	0...127

Settings between 0 – 63 = portamento off, and settings between 64 – 127 = portamento on.

The parameter 1.4.3 Portamento Time controls the portamento speed.

1.4.10 Sostenuto

Messages which control sostenuto on/off.

CNTRL#	PARAMETER	DATA RANGE
66	Sostenuto	0...127

Holding specific notes and then pressing and holding the sostenuto pedal will sustain those notes as you play subsequent notes, until the pedal is released.

Settings between 0 – 63 = sostenuto off, and settings between 64 – 127 = sostenuto on.

1.4.11 Soft Pedal

Messages which control soft pedal on/off.

CNTRL#	PARAMETER	DATA RANGE
67	Soft Pedal	0...127

Notes played while holding the soft pedal will be dampened.

Settings between 0 – 63 = soft pedal off, and settings between 64 – 127 = soft pedal on.

1.4.12 Harmonic Content

Messages which adjust the resonance set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
71	Harmonic Content	0...127 (0:-64, 64:+0, 127:+63)

The value set here is an offset value which will be added to or subtracted from the Voice data.

Higher values will result in a more characteristic, resonant sound. Depending on the Voice, the effective range may be narrower than the range available for adjustment.

1.4.13 Release Time

Messages which adjust the envelope release time set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
72	Release Time	0...127 (0:-64, 64:+0, 127:+63)

The value set here is an offset value which will be added to or subtracted from the Voice data.

1.4.14 Attack Time

Messages which adjust the envelope attack time set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
73	Attack Time	0...127 (0:-64, 64:+0, 127:+63)

The value set here is an offset value which will be added to or subtracted from the Voice data.

1.4.15 Brightness

Messages which adjust the filter cutoff frequency set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
74	Brightness	0...127 (0:-64, 64:+0, 127:+63)

The value set here is an offset value which will be added to or subtracted from the Voice data.

Lower values will result in a softer sound.

Depending on the Voice, the effective range may be narrower than the range available for adjustment.

1.4.16 Portamento Control

Messages which apply a portamento between the currently-sounding note and the subsequent note.

CNTRL#	PARAMETER	DATA RANGE
84	Portamento Control	0...127

Portamento Control is transmitted specifying the Note On Key of the currently-sounding note.

Specify a Portamento Source Key number between 0 – 127.

When a Portamento Control message is received, the currently sounding pitch will change with a Portamento Time of 0 to the next Key On key on the same channel.

For example, the following settings would apply a portamento from note C3 to C4.

90 3C 7F C3 = Key On

B0 54 3C Source Key number set to C3

90 48 7F C4 = Key On (When C4 = on, C3 is raised by a portamento to C4.)

Even if the Multi Part parameter Rcv PORTAMENTO (page App-14) = OFF, the Portamento Control message will be received .

1.4.17 Effect1 Depth (Reverb Send Level)

Messages which adjust the send level for the Reverb effect.

CNTRL#	PARAMETER	DATA RANGE
91	Effect1 Depth	0...127

1.4.18 Effect3 Depth (Chorus Send Level)

Messages which adjust the send level for the Chorus effect.

CNTRL#	PARAMETER	DATA RANGE
93	Effect3 Depth	0...127

1.4.19 Effect4 Depth (Variation Effect Send Level)

Messages which adjust the send level for the Variation effect.

CNTRL#	PARAMETER	DATA RANGE
94	Effect4 Depth	0...127

If Variation Connection (page App-13) = 1 (System), this message sets the send level for the Variation effect.

If Variation Connection = 0 (Insertion), this has no effect.

1.4.20 Data Increment / Decrement (for RPN)

Messages which increase or decrease the MSB value of Pitch Bend Sensitivity, Fine Tune, or Coarse Tune in steps of 1.

CNTRL#	PARAMETER	DATA RANGE
96	RPN Increment	0...127
97	RPN Decrement	0...127

The data byte is ignored.

When the maximum value or minimum value is reached, the value will not be incremented or decremented further.

(Incrementing the Fine Tune will not cause the Coarse Tune to be incremented.)

1.4.21 NRPN (Non-Registered Parameter Number)

Messages which adjust a Voice's vibrato, filter, EG, drum setup or other parameter settings.

CNTRL#	PARAMETER	DATA RANGE
98	NRPN LSB	0...127
99	NRPN MSB	0...127

First send the NRPN MSB and NRPN LSB to specify the parameter which is to be controlled. Then use Data Entry to set the value of the specified parameter.

** Note that once the NRPN has been set for a channel, subsequent data entry will be recognized as the same NRPN's value change. Therefore, after you use the NRPN, you should set a Null (7FH, 7FH) value to avoid an unexpected result.*

The following NRPN numbers can be received.

NRPN	DATA ENTRY		
MSB	LSB	MSB	PARAMETER NAME and VALUE RANGE
01H	08H	mmH	Vibrato Rate mm : 00H - 40H - 7FH (-64 - 0 - +63)
01H	09H	mmH	Vibrato Depth mm : 00H - 40H - 7FH (-64 - 0 - +63)
01H	0AH	mmH	Vibrato Delay mm : 00H - 40H - 7FH (-64 - 0 - +63)
01H	20H	mmH	Filter Cutoff Frequency mm : 00H - 40H - 7FH (-64 - 0 - +63)

01H	21H	mmH	Filter Resonance mm : 00H - 40H - 7FH (-64 - 0 - +63)
01H	63H	mmH	EG Attack Time mm : 00H - 40H - 7FH (-64 - 0 - +63)
01H	64H	mmH	EG Decay Time mm : 00H - 40H - 7FH (-64 - 0 - +63)
01H	66H	mmH	EG Release Time mm : 00H - 40H - 7FH (-64 - 0 - +63)
14H	rrH	mmH	Drum Filter Cutoff Frequency mm : 00H - 40H - 7FH (-64 - 0 - +63) rr : drum instrument note number
15H	rrH	mmH	Drum Filter Resonance mm : 00H - 40H - 7FH (-64 - 0 - +63) rr : drum instrument note number
16H	rrH	mmH	Drum EG Attack Rate mm : 00H - 40H - 7FH (-64 - 0 - +63) rr : drum instrument note number
17H	rrH	mmH	Drum EG Decay Rate mm : 00H - 40H - 7FH (-64 - 0 - +63) rr : drum instrument note number Applies to both Decay1 and 2.
18H	rrH	mmH	Drum Instrument Pitch Coarse mm : 00H - 40H - 7FH (-64 - 0 - +63) rr : drum instrument note number
19H	rrH	mmH	Drum Instrument Pitch Fine mm : 00H - 40H - 7FH (-64 - 0 - +63) rr : drum instrument note number
1AH	rrH	mmH	Drum Instrument Level mm : 00 - 7F (0 - max) rr : drum instrument note number
1CH	rrH	mmH	Drum Instrument Pan mm : 00H - 40H - 7FH (random, left - center - right) rr : drum instrument note number
1DH	rrH	mmH	Drum Instrument Reverb Send Level mm : 00H - 7FH (0 - max) rr : drum instrument note number
1EH	rrH	mmH	Drum Instrument Chorus Send Level mm : 00H - 7FH (0 - max) rr : drum instrument note number
1FH	rrH	mmH	Drum Instrument Variation Send Level mm : 00H - 7FH (0 - max) rr : drum instrument note number

MSB 14H-1FH (for Drum) is valid only if the Multi Part parameter (page App-13) PART MODE = DRUMS 1 or DRUMS2 for that channel. (If PART MODE = DRUM, no values will be changed.)

1.4.22 RPN (Registered Parameter Number)

Messages which offset, or add or subtract values from a Part's pitch bend sensitivity, tuning, or other parameter settings.

CNTRL#	PARAMETER	DATA RANGE
100	RPN LSB	0...127 (Default:7FH)
101	RPN MSB	0...127 (Default:7FH)

** Note that once the RPN has been set for a channel, subsequent data entry will be recognized as the same RPN's value change. Therefore after you use the RPN, you should set a Null (7FH, 7FH) value to avoid an unexpected result.*

MIDI Data Format

The following RPN numbers can be received.

RPN	DATA ENTRY	PARAMETER NAME and VALUE RANGE
MSB LSB	MSB LSB	
00H 00H	mmH --	Pitch Bend Sensitivity mm : 00 - 18H (0 - 24 chromatic steps) Assignable in chromatic steps up to 2 octaves Default : 02H LSB value is ignored.
00H 01H	mmH 11H	Fine Tuning mm : 00H - 40H - 7FH (-64-0-+63)
00H 02H	mmH --	Coarse Tuning mm : 28H - 40H - 58H (-24 - +24 chromatic steps) LSB value is ignored.
7FH 7FH	-- --	RPN null Cancels RPN and NRPN numbers.

1.5 Program Change

```
1100nnnn Cn Status n=Channel number
0pppppppp pp Program # p=0...127
```

Messages for Voice selection.

With a combination of Bank Select, you can select not only basic Voice numbers, but also variation Voice bank numbers.

If the Multi Part parameter Rcv PROGRAM CHANGE (page App-14) = OFF, that Part will not receive Program Change messages.

When the C/M mode is active, program change messages for drum Voices are ignored.

1.6 Channel Aftertouch

```
1101nnnn Dn Status n=Channel number
0vvvvvvvv vv Value v=0...127
```

Messages which let you control various functions by the pressure you apply to the keys after the initial striking of the keys, over the entire channel.

If the Multi Part parameter Rcv CH AFTER TOUCH (CAT) (page App-14) = OFF, that Part will not receive Channel Aftertouch.

1.7 Pitch Bend

```
1110nnnn En Status n=Channel number
01111111 11 Value LSB
0mmmmmmmm mm Value MSB
```

Messages for pitch bend wheel values.

If the Multi Part parameter Rcv PITCH BEND (page App-14) = OFF, that Part will not receive Pitch Bend messages.

2. CHANNEL MODE MESSAGES

The following Channel Mode Messages can be received.

2nd BYTE	3rd BYTE	MESSAGE
120	0	All Sounds Off
121	0	Reset All Controllers
123	0	All Notes Off
124	0	Omni Off
125	0	Omni On
126	0 ~ 16	Mono
127	0	Poly

2.1 All Sounds Off

```
1011nnnn Bn Status n=Channel number
01111000 78
00000000 00
```

Terminates all sounds currently sounding on the specified channel. However, the status of channel messages such as Note On and Hold On is maintained.

2.2 Reset All Controllers

```
1011nnnn Bn Status n=Channel number
01111001 79
00000000 00
```

The values of the following controllers will be reset to the defaults.

CONTROLLER	VALUE
Pitch Bend Change	±0 (center)
Channel Aftertouch	0 (off)
Polyphonic Aftertouch	0 (off)
Modulation	0 (off)
Expression	127 (max)
Hold1	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft Pedal	0 (off)
Portamento Control	cancels the Portamento Source Key Number that was received
RPN	number not specified; internal data will not change
NRPN	number not specified; internal data will not change

2.3 All Notes Off

```
1011nnnn Bn Status n=Channel number
01111011 7B
00000000 00
```

Terminates all notes currently on for the specified channel. However, if Hold1 or Sostenuto is on, notes will continue sounding until these are turned off.

2.4 Omni Off

```
1011nnnn Bn Status n=Channel number
01111100 7C
00000000 00
```

Performs the same function as when an All Notes Off message is received.

2.5 Omni On

```
1011nnnn Bn Status n=Channel number
01111101 7D
00000000 00
```

Performs the same function as when an All Notes Off message is received.

2.6 Mono

```

1011nmmn Bn Status      n=Channel number
01111110 7E
00000000 00
    
```

Performs the same function as when an All Sounds Off message is received, and if the 3rd byte (mono number) is in the range of 0 – 16, sets the corresponding channel to Mono Mode (Mode 4 : m = 1).

2.7 Poly

```

1011nmmn Bn Status      n=Channel number
01111111 7F
00000000 00
    
```

Performs the same function as when an All Sounds Off message is received, and sets the corresponding channel to Poly Mode (Mode 3).

3. SYSTEM EXCLUSIVE MESSAGES

System Exclusive messages control various functions of the CBX-K1XG, including master volume and master tuning, play mode, effect type and various other parameters.

3.1 Parameter Change

The CBX-K1XG receives the following parameter change messages.

[UNIVERSAL REALTIME MESSAGE]

- 1) Master Volume

[UNIVERSAL NON REALTIME MESSAGE]

- 1) General MIDI Mode On
- 2) Identity Request (INQUIRY MESSAGE)

[XG NATIVE PARAMETER CHANGE]

- 1) XG System on
- 2) XG System Data parameter change
- 3) Multi Effect1 Data parameter change
- 4) Multi Part Data parameter change
- 5) Drums Setup Data parameter change

[OTHER]

- 1) Master Tuning
- 2) TG300 System Data Parameter change
- 3) TG300 Multi Effect Data parameter change
- 4) TG300 Multi Part Data parameter change
- 5) Disc Orchestra On

3.1.1 Universal Realtime Messages

3.1.1.1 Master Volume

```

11110000 F0 Exclusive status
01111111 7F Universal Real Time
01111111 7F ID of target device
00001000 04 Sub-ID #1=Device Control Message
00000001 01 Sub-ID #2=Master Volume
0sssssss ss Volume LSB
0tttttttt tt Volume MSB
11110111 F7 End of Exclusive
    
```

or,

```

11110000 F0 Exclusive status
01111111 7F Universal Real Time
0xxxxnnn xn Device Number, xxx = irrelevant
00001000 04 Sub-ID #1=Device Control Message
    
```

```

00000001 01 Sub-ID #2=Master Volume
0sssssss ss Volume LSB
0tttttttt tt Volume MSB
11110111 F7 End of Exclusive
    
```

When received, the Volume MSB will be effective for the System Parameter MASTER VOLUME (page App-12).

3.1.2 Universal Non-Realtime Messages

3.1.2.1 General MIDI Mode On

```

11110000 F0 Exclusive status
01111110 7E Universal Non-Real Time
01111111 7F ID of target device
0001001 09 Sub-ID #1=General MIDI Message
00000001 01 Sub-ID #2=General MIDI On
11110111 F7 End of Exclusive
    
```

or,

```

11110000 F0 Exclusive status
01111110 7E Universal Non-Real Time
0xxxxnnn xn Device Number, xxx = irrelevant
0001001 09 Sub-ID #1=General MIDI Message
00000001 01 Sub-ID #2=General MIDI On
11110111 F7 End of Exclusive
    
```

When General MIDI Mode On is received, the play mode will be changed to XG mode.

When this happens, the CBX-K1XG will receive the MIDI messages which compatible with GM System Level 1, and consequently will not receive NRPN and Bank Select messages.

When the C/M mode is active, these messages are ignored.

Since approximately 50ms is required to execute this message, be sure to leave an appropriate interval before the subsequent message.

3.1.2.2 Identity Request

```

11110000 F0 Exclusive status
01111110 7E Universal Non-Real Time
0000nmmn nn Device Number, n= 0...15
00000110 06 Sub-ID #1=General Information
00000001 01 Sub-ID #2=Identity Request
11110111 F7 End of Exclusive
    
```

The CBX-K1XG transmits an Identity Reply message (see 3.1.2.2 on page App-3) when this is received.

3.1.3 XG Native Parameter Change

With the Parameter Change messages as listed below, you can change the characteristic of a Voice, such as by Effect Type or effect parameter, transpose, tuning, and others.

A connected XG-compatible tone generator can be controlled in the same way (via the MIDI OUT or TO HOST terminals).

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nmmn 1n Device Number
01001100 4C XG Model ID
0aaaaaaa aa Address High
0aaaaaaa aa Address Mid
0aaaaaaa aa Address Low
0ddddd dd Data
| |
11110111 F7 End of Exclusive
    
```

MIDI Data Format

For parameters with data size of 2 or 4, transmit the appropriate number of data bytes.

When sending the parameter change messages consecutively, be sure to leave an appropriate interval (if the time base is 480, ca 5 unit) between the messages.

■ EXAMPLES OF PARAMETER CHANGE

1. To set the Element Reserve of Part 2 to 10:

First check the Table 1 - 5 on page App-13 for the appropriate Element Reserve address and data values. In this case, address high is 08, mid is the Part number (02), and low is 00. For the number of elements, set a hexadecimal value of 0A (decimal 10).

Apply these to the 3.1.3 XG Native Parameter Change list as follows:

```
11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n* Device Number
01001100 4C XG Model ID
00001000 08 Address High
00000010 02 Address Mid
00000000 00 Address Low
00001010 0A Data (ELEMENT RESERVE)
11110111 F7 End of Exclusive
```

When this data is received, Element Reserve for Part 2 will be set to 10.

* Make sure to set the appropriate MIDI device number.

2. To change Variation Effect type to Echo:

First check the Effect Type List (page App-26) to identify the MSB and LSB numbers; for Echo Variation Effect type numbers are MSB = 07, LSB = 00.

Next, check the Address in Table 1 - 4 (page App-13) for the VARIATION TYPE parameter; in this case the address is High, Mid, Low = 02, 01, 40, respectively.

Apply these to the 3.1.3 XG Native Parameter Change list as follows:

```
11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
01001100 4C XG Model ID
00000010 02 Address High
00000001 01 Address Mid
01000000 40 Address Low
00000111 07 Data (VARIATION TYPE MSB)
00000000 00 Data (VARIATION TYPE LSB)
11110111 F7 End of Exclusive
```

When this data is received, the CBX-K1XG will change the effect type to Echo.

3. To change the effect Dry/Wet balance of Echo to 50% each:

First check the Effect Parameter List (page App-27), parameter number 10, to identify the Dry(50%)/Wet(50%); in this case the Dry=Wet value is 64 (hexadecimal 40).

Next, check the Address in Table 1 - 4 (page App-13) for the VARIATION PARAMETER 10; in this case the address is High, Mid, Low = 02, 01, 54, respectively.

Apply these to the 3.1.3 XG Native Parameter Change list as follows:

```
11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
01001100 4C XG Model ID
00000010 02 Address High
00000001 01 Address Mid
01010100 54 Address Low
01000000 40 Data (MSB) ← actual value
00000000 00 Data (LSB) ← 00fixed
11110111 F7 End of Exclusive
```

When this data is received, the CBX-K1XG will change the effect Dry/Wet balance to 50% each.

Be sure to allow enough time for the procedure to take place by inserting an empty measure at the top of the song for every channel.

3.1.3.1 XG System On

```
11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
01001100 4C XG Model ID
00000000 00 Address High
00000000 00 Address Mid
01111110 7E Address Low
00000000 00 Data
11110111 F7 End of Exclusive
```

When this data is received, the CBX-K1XG will switch to XG mode and all the parameters will be initialized accordingly, and XG-compatible messages such as NRPN and Bank Select messages can be received.

Since approximately 50ms is required to execute this message, be sure to leave an appropriate interval before the subsequent message.

3.1.3.2 XG System Data parameter change

See tables 1 - 1 and 1 - 2 (page App-12).

3.1.3.3 Multi Effect1 Data parameter change

See tables 1 - 1 and 1 - 4 (page App-12).

3.1.3.4 Multi Part Data parameter change

See tables 1 - 1 (page App-12) and 1 - 5 (page App-13).

3.1.3.5 Drums Setup Data parameter change

See tables 1 - 1 (page App-12) and 1 - 6 (page App-5).

If a Drum Setup Reset parameter change message (page App-12) is received (when CBX-K1XG is active), the Drum Setup parameter values will be initialized.

Selecting a Drum Set (in any mode) will cause the Drum Setup parameter values to be initialized.

3.1.4 Other parameter changes

3.1.4.1 Master Tuning

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0001nnnn 1n Device Number
00100111 27 Model ID
00110000 30 Sub ID2
00000000 00
00000000 00
0mmmmmmmm mm Master Tune MSB
01111111 11 Master Tune LSB
Occccccc cc irrelevant
11110111 F7 End of Exclusive

```

This message simultaneously changes the pitch of all channels.

3.1.4.2 Disk Orchestra On

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
01000011 73 CLAVINOVA
00000001 01 Model ID
00000000 00
00010100 14 DOC voice multi-timbre mode on
11110111 F7 End of Exclusive

```

This message changes the internal tone generator to the DOC mode.

3.2 Bulk Dump

The CBX-K1XG receives the following bulk dump data.

[XG NATIVE]

- 1) XG System Data
- 2) Multi Effect1 Data
- 3) Multi Part Data
- 4) Drums Setup Data

3.2.1 XG Native Bulk Dump

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0000nnnn 0n Device Number
01001100 4C XG Model ID
0bbbbbbb bb ByteCount
0bbbbbbb bb ByteCount
0aaaaaaaa aa Address High
0aaaaaaaa aa Address Mid
0aaaaaaaa aa Address Low
0ddddddd dd Data
    |      |
    |      |
Occccccc cc Check-sum
11110111 F7 End of Exclusive

```

For the Address and Byte Count, refer to the supplementary tables. The Check Sum is the value that results in a value of 0 for the lower 7 bits when the Start Address, Byte Count, Data, plus the Check Sum itself are added.

3.2.1.1 XG System Data bulk dump

See tables 1 - 1 and 1 - 2 (page App-12).

3.2.1.2 Multi Effect1 Data bulk dump

See tables 1 - 1 and 1 - 4 (page App-12).

3.2.1.3 Multi Part Data bulk dump

See tables 1 - 1 (page App-12) and 1 - 5 (page App-13).

3.2.1.4 Drums Setup Data bulk dump

See tables 1 - 1 (page App-12) and 1 - 6 (page App-15).

3.3 Parameter Request

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0011nnnn 3n Device Number
01001100 4C XG Model ID
0aaaaaaaa aa Address High
0aaaaaaaa aa Address Mid
0aaaaaaaa aa Address Low
11110111 F7 End of Exclusive

```

3.4 Dump Request

```

11110000 F0 Exclusive status
01000011 43 YAMAHA ID
0010nnnn 2n Device Number
01001100 4C XG Model ID
0aaaaaaaa aa Address High
0aaaaaaaa aa Address Mid
0aaaaaaaa aa Address Low
11110111 F7 End of Exclusive

```

4. SYSTEM REALTIME MESSAGES

4.1 Active Sensing

```
11111110 FE Status
```

Once FE has been received, if no MIDI data is subsequently received for longer than an interval of approximately 300msec, the CBX-K1XG will perform the same function as when ALL SOUNDS OFF, ALL NOTES OFF, and RESET ALL CONTROLLERS messages are received, and will then return to a status in which FE is not monitored.

MIDI Data Tables

Table 1-1

Parameter Base Address
Model ID = 4C y XG z

Parameter Change				
	Address			Description
	High	Mid	Low	
XG SYSTEM	00	00	00	System
	00	00	7D	Drum setup Reset
	00	00	7E	XG System On
	00	00	7F	All Parameter Reset
INFORMATION	01	00	00	System Information
EFFECT 1	02	01	00	Effect1(Reverb,Chorus,Variation)
MULTI PART	08	00	00	Multi Part 1
		:	:	:
	08	0F	00	Multi Part 16
DRUM	30	0D	00	Drum Setup 1
	31	0D	00	Drum Setup 2

Address	Parameter
3n 0D 00	note number 13
3n 0E 00	note number 14
:	:
3n 5B 00	note number 91

n : Drum Setup number (0, 1)

Table 1-2

MIDI Parameter Change table (SYSTEM) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 00 00	4	0000 - 07FF	MASTER TUNE	-102.4 - +102.3[cent] 1st bit3 - 0→bit15 - 12 2nd bit3 - 0→bit11 - 8 3rd bit3 - 0→bit7 - 4 4th bit3 - 0→bit3 - 0	00 04 00 00
04	1	00 - 7F	MASTER VOLUME	0 - 127	7F
05	1	00 - 7F	NOT USED		
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
7D	n	n	DRUM SETUP RESET	n=Drum Setup number (0, 1)	
7E	00	00	XG SYSTEM ON	00=XG System ON (receive only)	
7F	00	00	ALL PARAMETER RESET	00=ON (receive only)	
TOTAL SIZE	07				

Table 1-3

MIDI Parameter Change table (System information) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
01 00 00	E	20 - 7F	Model Name	32 - 127 (ASCII CHARACTER)	
:	:	:	:	:	
0D	1	20 - 7F			00
0E	1	00			00
0F	1	00			
TOTAL SIZE	10				

These are transmitted upon reception of a Dump Request message.

Table 1-4

MIDI Parameter Change table (EFFECT 1) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 00	2	00 - 7F	REVERB TYPE MSB	see Effect Type List (page App-26)	01 (=HALL1)
		00 - 7F	REVERB TYPE LSB	00 : basic type	00
02	1	00 - 7F	REVERB PARAMETER 1	see Effect Parameter List (page App-27)	depends on reverb type
03	1	00 - 7F	REVERB PARAMETER 2	see Effect Parameter List (page App-27)	depends on reverb type
04	1	00 - 7F	REVERB PARAMETER 3	see Effect Parameter List (page App-27)	depends on reverb type
05	1	00 - 7F	REVERB PARAMETER 4	see Effect Parameter List (page App-27)	depends on reverb type
06	1	00 - 7F	REVERB PARAMETER 5	see Effect Parameter List (page App-27)	depends on reverb type
07	1	00 - 7F	REVERB PARAMETER 6	see Effect Parameter List (page App-27)	depends on reverb type
08	1	00 - 7F	REVERB PARAMETER 7	see Effect Parameter List (page App-27)	depends on reverb type
09	1	00 - 7F	REVERB PARAMETER 8	see Effect Parameter List (page App-27)	depends on reverb type
0A	1	00 - 7F	REVERB PARAMETER 9	see Effect Parameter List (page App-27)	depends on reverb type
0B	1	00 - 7F	REVERB PARAMETER 10	see Effect Parameter List (page App-27)	depends on reverb type
0C	1	00 - 7F	REVERB RETURN	-->dB...0dB...+6dB (0...64...127)	40
0D	1	01 - 7F	REVERB PAN	L63...C...R63 (1...64...127)	40
TOTAL SIZE	0E				
02 01 10	1	00 - 7F	REVERB PARAMETER 11	see Effect Parameter List (page App-27)	depends on reverb type
11	1	00 - 7F	REVERB PARAMETER 12	see Effect Parameter List (page App-27)	depends on reverb type
12	1	00 - 7F	REVERB PARAMETER 13	see Effect Parameter List (page App-27)	depends on reverb type
13	1	00 - 7F	REVERB PARAMETER 14	see Effect Parameter List (page App-27)	depends on reverb type
14	1	00 - 7F	REVERB PARAMETER 15	see Effect Parameter List (page App-27)	depends on reverb type
15	1	00 - 7F	REVERB PARAMETER 16	see Effect Parameter List (page App-27)	depends on reverb type
TOTAL SIZE	6				

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 20	2	00 - 7F	CHORUS TYPE MSB	see Effect Type List (page App-26)	41 (=CHORUS1)
		00 - 7F	CHORUS TYPE LSB	00 : basic type	00
	22	00 - 7F	CHORUS PARAMETER 1	see Effect Parameter List (page App-28)	depends on chorus type
	23	00 - 7F	CHORUS PARAMETER 2	see Effect Parameter List (page App-28)	depends on chorus type
	24	00 - 7F	CHORUS PARAMETER 3	see Effect Parameter List (page App-28)	depends on chorus type
	25	00 - 7F	CHORUS PARAMETER 4	see Effect Parameter List (page App-28)	depends on chorus type
	26	00 - 7F	CHORUS PARAMETER 5	see Effect Parameter List (page App-28)	depends on chorus type
	27	00 - 7F	CHORUS PARAMETER 6	see Effect Parameter List (page App-28)	depends on chorus type
	28	00 - 7F	CHORUS PARAMETER 7	see Effect Parameter List (page App-28)	depends on chorus type
	29	00 - 7F	CHORUS PARAMETER 8	see Effect Parameter List (page App-28)	depends on chorus type
	2A	00 - 7F	CHORUS PARAMETER 9	see Effect Parameter List (page App-28)	depends on chorus type
	2B	00 - 7F	CHORUS PARAMETER 10	see Effect Parameter List (page App-28)	depends on chorus type
	2C	00 - 7F	CHORUS RETURN	--dB...0dB...+6dB (0...64...127)	40
	2D	01 - 7F	CHORUS PAN	L63...C...R63 (1...64...127)	40
	2E	00 - 7F	SEND CHORUS TO REVERB	--dB...0dB...+6dB (0...64...127)	00
TOTAL	SIZE	0F			
02 01 30	1	00 - 7F	CHORUS PARAMETER 11	see Effect Parameter List (page App-28)	depends on chorus type
	31	00 - 7F	CHORUS PARAMETER 12	see Effect Parameter List (page App-28)	depends on chorus type
	32	00 - 7F	CHORUS PARAMETER 13	see Effect Parameter List (page App-28)	depends on chorus type
	33	00 - 7F	CHORUS PARAMETER 14	see Effect Parameter List (page App-28)	depends on chorus type
	34	00 - 7F	CHORUS PARAMETER 15	see Effect Parameter List (page App-28)	depends on chorus type
	35	00 - 7F	CHORUS PARAMETER 16	see Effect Parameter List (page App-28)	depends on chorus type
TOTAL	SIZE	6			
02 01 40	2	00 - 7F	VARIATION TYPE MSB	see Effect Type List (page App-26)	05 (=DELAY L.C.R)
		00 - 7F	VARIATION TYPE LSB	00 : basic type	00
	42	00 - 7F	VARIATION PARAMETER 1 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 1 LSB	see Effect Parameter List (page App-27)	depends on variation type
	44	00 - 7F	VARIATION PARAMETER 2 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 2 LSB	see Effect Parameter List (page App-27)	depends on variation type
	46	00 - 7F	VARIATION PARAMETER 3 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 3 LSB	see Effect Parameter List (page App-27)	depends on variation type
	48	00 - 7F	VARIATION PARAMETER 4 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 4 LSB	see Effect Parameter List (page App-27)	depends on variation type
	4A	00 - 7F	VARIATION PARAMETER 5 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 5 LSB	see Effect Parameter List (page App-27)	depends on variation type
	4C	00 - 7F	VARIATION PARAMETER 6 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 6 LSB	see Effect Parameter List (page App-27)	depends on variation type
	4E	00 - 7F	VARIATION PARAMETER 7 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 7 LSB	see Effect Parameter List (page App-27)	depends on variation type
	50	00 - 7F	VARIATION PARAMETER 8 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 8 LSB	see Effect Parameter List (page App-27)	depends on variation type
	52	00 - 7F	VARIATION PARAMETER 9 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 9 LSB	see Effect Parameter List (page App-27)	depends on variation type
	54	00 - 7F	VARIATION PARAMETER 10 MSB	see Effect Parameter List (page App-27)	depends on variation type
		00 - 7F	VARIATION PARAMETER 10 LSB	see Effect Parameter List (page App-27)	depends on variation type
	56	00 - 7F	VARIATION RETURN	--dB...0dB...+6dB (0...64...127)	40
	57	01 - 7F	VARIATION PAN	L63...C...R63 (1...64...127)	40
	58	00 - 7F	SEND VARIATION TO REVERB	--dB...0dB...+6dB (0...64...127)	00
	59	00 - 7F	SEND VARIATION TO CHORUS	--dB...0dB...+6dB (0...64...127)	00
	5A	00 - 01	VARIATION CONNECTION	0:INSERTION, 1:SYSTEM	00
	5B	00 - 0F, 7F	VARIATION PART	part1...16 = 0...15, OFF = 127	7F
	5C	00 - 7F	MW VARIATION CONTROL DEPTH	-64 - +63	40
	5D	00 - 7F	BEND VARIATION CONTROL DEPTH	-64 - +63	40
	5E	00 - 7F	CAT VARIATION CONTROL DEPTH	-64 - +63	40
	5F	00 - 7F	AC1 VARIATION CONTROL DEPTH	-64 - +63	40
	60	00 - 7F	AC2 VARIATION CONTROL DEPTH	-64 - +63	40
TOTAL	SIZE	21			
02 01 70	1	00 - 7F	VARIATION PARAMETER 11	see Effect Parameter List (page App-27)	depends on variation type
	71	00 - 7F	VARIATION PARAMETER 12	see Effect Parameter List (page App-27)	depends on variation type
	72	00 - 7F	VARIATION PARAMETER 13	see Effect Parameter List (page App-27)	depends on variation type
	73	00 - 7F	VARIATION PARAMETER 14	see Effect Parameter List (page App-27)	depends on variation type
	74	00 - 7F	VARIATION PARAMETER 15	see Effect Parameter List (page App-27)	depends on variation type
	75	00 - 7F	VARIATION PARAMETER 16	see Effect Parameter List (page App-27)	depends on variation type
TOTAL	SIZE	6			

Table 1-5

MIDI Parameter Change table (MULTI PART) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
08 nn 00	1	00 - 20	ELEMENT RESERVE	0 - 32	part10 = 00, other = 02
nn 01	1	00 - 7F	BANK SELECT MSB	0 - 127	part10 = 7F, other = 00
nn 02	1	00 - 7F	BANK SELECT LSB	0 - 127	00
nn 03	1	00 - 7F	PROGRAM NUMBER	1 - 128	00
nn 04	1	00 - 0F, 7F	Rcv CHANNEL	1 - 16, OFF	part no.
nn 05	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	01
nn 06	1	00 - 02	SAME NOTE NUMBER KEY ON ASSIGN	0:SINGLE 1:MULTI 2:INST (for DRUM)	01
nn 07	1	00 - 03	PART MODE	0:NORMAL 1:DRUM 2 - 3:DRUMS1 - 2	00 (Other than Part10) 02 (Part10)
nn 08	1	28 - 58	NOTE SHIFT	-24 - +24 [semitones]	40
nn 09	2	00 - FF	DETUNE	-12.8 - +12.7 [Hz] 1st bit3-0→bit7-4 2nd bit3-0→bit3-0	08 00 (80)

MIDI Data Tables

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
nn 0B	1	00 - 7F	VOLUME	0 - 127	64
nn 0C	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	40
nn 0D	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	40
nn 0E	1	00 - 7F	PAN	0:random, L63...C...R63 (1...64...127)	40
nn 0F	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	00
nn 10	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	7F
nn 11	1	00 - 7F	DRY LEVEL	0 - 127	7F
nn 12	1	00 - 7F	CHORUS SEND	0 - 127	00
nn 13	1	00 - 7F	REVERB SEND	0 - 127	28
nn 14	1	00 - 7F	VARIATION SEND	0 - 127	00
nn 15	1	00 - 7F	VIBRATO RATE	-64 +63	40
nn 16	1	00 - 7F	VIBRATO DEPTH	-64 +63	40 (drum part ignores)
nn 17	1	00 - 7F	VIBRATO DELAY	-64 +63	40 (drum part ignores)
nn 18	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 +63	40
nn 19	1	00 - 7F	FILTER RESONANCE	-64 +63	40
nn 1A	1	00 - 7F	EG ATTACK TIME	-64 +63	40
nn 1B	1	00 - 7F	EG DECAY TIME	-64 +63	40
nn 1C	1	00 - 7F	EG RELEASE TIME	-64 +63	40
nn 1D	1	28 - 58	MW PITCH CONTROL	-24 - +24 [semitones]	40
nn 1E	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450 [cent]	40
nn 1F	1	00 - 7F	MW AMPLITUDE CONTROL	-64 +63	40
nn 20	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	0A
nn 21	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	00
nn 22	1	00 - 7F	MW LFO AMOD DEPTH	0 - 127	00
nn 23	1	28 - 58	BEND PITCH CONTROL	-24 - +24 [semitones]	42
nn 24	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450 [cent]	40
nn 25	1	00 - 7F	BEND AMPLITUDE CONTROL	-64 +63	40
nn 26	1	00 - 7F	BEND LFO PMOD DEPTH	+100 - +100 [%]	40
nn 27	1	00 - 7F	BEND LFO FMOD DEPTH	+100 - +100 [%]	40
nn 28	1	00 - 7F	BEND LFO AMOD DEPTH	+100 - +100 [%]	40
TOTAL SIZE	29				
nn 30	1	00 - 01	Rcv PITCH BEND	0:OFF, 1:ON	01
nn 31	1	00 - 01	Rcv CH AFTER TOUCH (CAT)	0:OFF, 1:ON	01
nn 32	1	00 - 01	Rcv PROGRAM CHANGE	0:OFF, 1:ON	01
nn 33	1	00 - 01	Rcv CONTROL CHANGE	0:OFF, 1:ON	01
nn 34	1	00 - 01	Rcv POLY AFTER TOUCH (PAT)	0:OFF, 1:ON	01
nn 35	1	00 - 01	Rcv NOTE MESSAGE	0:OFF, 1:ON	01
nn 36	1	00 - 01	Rcv RPN	0:OFF, 1:ON	01
nn 37	1	00 - 01	Rcv NRPN	0:OFF, 1:ON	XG=01, GM=00
nn 38	1	00 - 01	Rcv MODULATION	0:OFF, 1:ON	01
nn 39	1	00 - 01	Rcv VOLUME	0:OFF, 1:ON	01
nn 3A	1	00 - 01	Rcv PAN	0:OFF, 1:ON	01
nn 3B	1	00 - 01	Rcv EXPRESSION	0:OFF, 1:ON	01
nn 3C	1	00 - 01	Rcv HOLD1	0:OFF, 1:ON	01
nn 3D	1	00 - 01	Rcv PORTAMENTO	0:OFF, 1:ON	01
nn 3E	1	00 - 01	Rcv SOSTENUTO	0:OFF, 1:ON	01
nn 3F	1	00 - 01	Rcv SOFT PEDAL	0:OFF, 1:ON	01
nn 40	1	00 - 01	Rcv BANK SELECT	0:OFF, 1:ON	XG=01, GM=00
nn 41	1	00 - 7F	SCALE TUNING C	-64 +63 [cent]	40
nn 42	1	00 - 7F	SCALE TUNING C#	-64 +63 [cent]	40
nn 43	1	00 - 7F	SCALE TUNING D	-64 +63 [cent]	40
nn 44	1	00 - 7F	SCALE TUNING D#	-64 +63 [cent]	40
nn 45	1	00 - 7F	SCALE TUNING E	-64 +63 [cent]	40
nn 46	1	00 - 7F	SCALE TUNING F	-64 +63 [cent]	40
nn 47	1	00 - 7F	SCALE TUNING F#	-64 +63 [cent]	40
nn 48	1	00 - 7F	SCALE TUNING G	-64 +63 [cent]	40
nn 49	1	00 - 7F	SCALE TUNING G#	-64 +63 [cent]	40
nn 4A	1	00 - 7F	SCALE TUNING A	-64 +63 [cent]	40
nn 4B	1	00 - 7F	SCALE TUNING A#	-64 +63 [cent]	40
nn 4C	1	00 - 7F	SCALE TUNING B	-64 +63 [cent]	40
nn 4D	1	28 - 58	CAT PITCH CONTROL	-24 - +24 [semitones]	40
nn 4E	1	00 - 7F	CAT FILTER CONTROL	-9600 - +9450 [cent]	40
nn 4F	1	00 - 7F	CAT AMPLITUDE CONTROL	-64 +63	40
nn 50	1	00 - 7F	CAT LFO PMOD DEPTH	0 - 127	00
nn 51	1	00 - 7F	CAT LFO FMOD DEPTH	0 - 127	00
nn 52	1	00 - 7F	CAT LFO AMOD DEPTH	0 - 127	00
nn 53	1	28 - 58	PAT PITCH CONTROL	-24 - +24 [semitones]	40
nn 54	1	00 - 7F	PAT FILTER CONTROL	-9600 - +9450 [cent]	40
nn 55	1	00 - 7F	PAT AMPLITUDE CONTROL	-64 +63	40
nn 56	1	00 - 7F	PAT LFO PMOD DEPTH	0 - 127	00
nn 57	1	00 - 7F	PAT LFO FMOD DEPTH	0 - 127	00
nn 58	1	00 - 7F	PAT LFO AMOD DEPTH	0 - 127	00
nn 59	1	00 - 5F	AC1 CONTROLLER NUMBER	0 - 95	10
nn 5A	1	28 - 58	AC1 PITCH CONTROL	-24 - +24 [semitones]	40
nn 5B	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450 [cent]	40
nn 5C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-64 +63	40
nn 5D	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	00
nn 5E	1	00 - 7F	AC1 LFO FMOD DEPTH	0 - 127	00
nn 5F	1	00 - 7F	AC1 LFO AMOD DEPTH	0 - 127	00
nn 60	1	00 - 5F	AC2 CONTROLLER NUMBER	0 - 95	11
nn 61	1	28 - 58	AC2 PITCH CONTROL	-24 - +24 [semitones]	40
nn 62	1	00 - 7F	AC2 FILTER CONTROL	-9600 - +9450 [cent]	40
nn 63	1	00 - 7F	AC2 AMPLITUDE CONTROL	-64 +63	40
nn 64	1	00 - 7F	AC2 LFO PMOD DEPTH	0 - 127	00
nn 65	1	00 - 7F	AC2 LFO FMOD DEPTH	0 - 127	00

Address (H)	Size (H)	Data (H)	Parameter	Description	
nn 66	1	00 - 7F	AC2 LFO AMOD DEPTH	0 - 127	00
nn 67	1	00 - 01	PORTAMENTO SWITCH	0:OFF, 1:ON	00
nn 68	1	00 - 7F	PORTAMENTO TIME	0 - 127	00
nn 69	1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63	40
nn 6A	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63	40
nn 6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63	40
nn 6C	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63	40
nn 6D	1	01 - 7F	VELOCITY LIMIT LOW	1 - 127	01
nn 6E	1	01 - 7F	VELOCITY LIMIT HIGH	1 - 127	7F
TOTAL SIZE	3F				

nn = Part Number (0 : Part 1, 1 : Part 2, 2 : Part 3, ... , 15 : Part 16)

For the DRUM PART, the following parameters have no effect.

- SOFT PEDAL
- BANK SELECT LSB
- MONO/POLY
- SCALE TUNING
- PORTAMENTO
- POLY AFTER TOUCH
- PITCH EG INITIAL LEVEL
- PITCH EG ATTACK TIME
- PITCH EG RELEASE LEVEL
- PITCH EG RELEASE TIME

Table 1-6

MIDI Parameter Change table (DRUM SETUP) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
3n rr 00	1	00 - 7F	PITCH COARSE	-64 - +63	40
3n rr 01	1	00 - 7F	PITCH FINE	-64 - +63[cent]	40
3n rr 02	1	00 - 7F	LEVEL	0 - 127	depend on the note
3n rr 03	1	00 - 7F	ALTERNATE GROUP	0:OFF, 1 - 127	depend on the note
3n rr 04	1	00 - 7F	PAN	0:random, L63...C...R63 (1...64...127)	depend on the note
3n rr 05	1	00 - 7F	REVERB SEND	0 - 127	depend on the note
3n rr 06	1	00 - 7F	CHORUS SEND	0 - 127	depend on the note
3n rr 07	1	00 - 7F	VARIATION SEND	0 - 127	7F
3n rr 08	1	00 - 01	KEY ASSIGN	0:SINGLE, 1:MULTI	00
3n rr 09	1	00 - 01	Rev NOTE OFF	0:OFF, 1:ON	depend on the note
3n rr 0A	1	00 - 01	Rev NOTE ON	0:OFF, 1:ON	01
3n rr 0B	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	40
3n rr 0C	1	00 - 7F	FILTER RESONANCE	-64 - +63	40
3n rr 0D	1	00 - 7F	EG ATTACK RATE	-64 - +63	40
3n rr 0E	1	00 - 7F	EG DECAY1 RATE	-64 - +63	40
3n rr 0F	1	00 - 7F	EG DECAY2 RATE	-64 - +63	40
TOTAL SIZE	10				

[Note] n : Drum Setup number (0, 1)

rr : note number (0D - 5B)

When XG system on or GM mode on messages are received, all Drum Setup parameters are initialized.

The Drum Setup Reset message can be used to initialize each Drum Setup parameter.

Selecting a Drum Set will cause the Drum Setup parameter values to be initialized.

Function ...	Transmitted	Recognized	Remarks
Basic Default	: 1	: 1	:
Channel Changed	: 1 - 16	: 1 - 16	:
Mode Default	: 3	: 3	:
Mode Messages altered	: x : *****	: 3,4(m = 1) *2 : x	:
Note Number : True voice	: 0 - 127 : *****	: 0 - 127 : x	:
Velocity Note ON	: o 9nH,v=1-127	: o 9nH,v=1-127	:
Velocity Note OFF	: x 9nH,v=0	: x	:
After Key's	: o *3, *4	: o *1	:
Touch Ch's	: o *3	: o *1	:
Pitch Bender	: o	: o 0-24 semi	*1 :
Control 0,32	: o	: o	*1 :Bank Select
Control 1,5,7,10,11	: o	: o	*1 :
Control 6,38	: o	: o	:Data Entry
Control 64-67	: o	: o	*1 :
Control 71,74	: o	: o	:Sound Controller:
Change 84	: o	: o	:Portamento Cntrl:
Change 91,93,94	: o	: o	:Effect Depth
Change 96-101	: o	: o	*1 :
Change other 2-119	: o	: x	:
Change 120	: o	: o	:All Sound Off
Change 121	: o	: o	:Reset All Cntrls:
Prog	: o 0 - 127	: o 0 - 127	:
Change : True #	: *****	:	:
System Exclusive	: o	: o	:
common : Song Pos.	: o	: x	:
common : Song Sel.	: o 0 - 127	: x	:
common : Tune	: x	: x	:
System :Clock	: o *5	: x	:
Real Time :Commands	: o	: x	:
Aux :Local ON/OFF	: x	: x	:
Aux :All Notes OFF	: x	: o(123-127)	:
Mes- :Active Sense	: o	: o	:
sages:Reset	: x	: x	:
Notes: *1	; receive if switch is on.		
Notes: *2	; m is always treated as "1" regardless of its value.		
Notes: *3	; though the keyboard itself has no after touch, after touch data can be transmitted from the ASSIGNABLE WHEEL when after touch is assigned to the wheel.		
Notes: *4	; this applies only to the highest note played.		
Notes: *5	; transmit if tempo is not "off".		
App-16 Mode 1	: OMNI ON, POLY	Mode 2 : OMNI ON, MONO	o : Yes
Mode 3	: OMNI OFF, POLY	Mode 4 : OMNI OFF, MONO	x : No

XG Normal Voice List

Bank Select MSB=000, LSB=Bank Number

Instrument Group	Program #	Bank #	Voice Name	Element	Instrument Group	Program #	Bank #	Voice Name	Element	Instrument Group	Program #	Bank #	Voice Name	Element	Instrument Group	Program #	Bank #	Voice Name	Element
Piano	1	0	GrandPno	1	Organ	17	0	DrawOrgn	1	Bass	33	0	Aco.Bass	1	Ensemble	49	0	Strings1	1
	1	1	GmdPnoK	1		32	32	40	JazzRthm		2	3	3	S.Strngs		2			
	18	18	MelloGrP	1		33	33	45	VXUprght		2	8	8	SlowStr		1			
	40	40	PianoStr	2		34	34	0	FngrBass		1	24	24	ArcoStr		2			
	41	41	Dream	2		35	35	18	FngrDrk		2	35	35	60sStrng		2			
	2	0	BritePno	1		36	36	27	FlangeBa		2	40	40	Orchestr		2			
	1	1	BritPnoK	1		37	37	40	Ba&DstEG		2	41	41	Orchstr2		2			
	3	0	E.Grand	2		38	38	43	FngrSlap		2	42	42	TremOrch		2			
	1	1	EiGrPnoK	2		40	40	45	FngBass2		2	45	45	VeloStr		2			
	32	32	Det.CP80	2		64	64	65	ModAlem		2	50	0	Strings2		1			
	40	40	EiGrPno1	2		65	65	0	PickBass		1	3	3	S.SlwStr		2			
	41	41	EiGrPno2	2		66	66	28	MutePkBa		1	8	8	LegatoSt		2			
	4	0	HnkyTonk	2		67	67	36	0		Fretless	1	40	40		Warm Str	2		
	1	1	HnkyTnkK	2		18	0	32	Fretles2		2	41	41	Kingdom		2			
	5	0	E.Piano1	2		24	24	33	Fretles3		2	64	64	70s Str		1			
	1	1	El.Pno1K	1		32	32	34	Fretles4		2	65	65	Str Ens3		1			
	18	18	MelloEP1	2		33	33	96	SynFretl		2	51	0	Syn.Str1		2			
	32	32	Chor.EP1	2		37	37	97	Smooth		2	27	27	ResoStr		2			
	40	40	HardEl.P	2		19	0	0	SlapBas1		1	64	64	Syn Str4		2			
	45	45	VX El.P1	2		64	64	27	ReSoSlap		1	65	65	SS Str		2			
	64	64	60sEl.P	1		65	65	32	PunchThm		2	52	0	Syn.Str2		2			
	6	0	E.Piano2	2		66	66	38	0		SlapBas2	1	53	0		ChoirAah	1		
	1	1	El.Pno2K	1		20	0	43	VeloSlap		2	3	3	S.Choir		2			
	32	32	Chor.EP2	2		32	32	0	SynBass1		1	16	16	Ch.Aahs2		2			
	33	33	DX Hard	2		35	35	18	SynBa1Dk		1	32	32	MelChoir		2			
	34	34	DXLegend	2		40	40	20	FastResB		1	40	40	ChoirStr		2			
	40	40	DX Phase	2		64	64	24	AcidBass		1	54	0	VoiceOoh		1			
	41	41	DX+Analg	2		65	65	35	Clv Bass		2	55	0	SynVoice		1			
	42	42	DXKotoEP	2		21	0	40	TeknoBa		2	40	40	SynVox2		2			
	45	45	VX El.P2	2		40	40	64	Oscar		2	41	41	Choral		2			
	7	0	Harpsi.	1		22	0	65	SqjBass		1	64	64	AnaVoice		1			
	1	1	Harpsi.K	1		32	32	96	RubberBa		2	56	0	Orch.Hit		2			
	25	25	Harpsi.2	2		23	0	66	Hammer		2	35	35	OrchHit2		2			
	35	35	Harpsi.3	2		32	32	40	0		SynBass2	2	64	64		Impact	2		
	8	0	Clavi.	2		24	0	6	MelloSB1		1	57	0	Trumpet		1			
	1	1	Clavi. K	1		64	64	12	Seq Bass		2	16	16	Trumpet2		1			
	27	27	ClaviWah	2		25	0	18	ClkSynBa		2	17	17	BriteTrp		2			
	64	64	PulseClv	1		16	16	19	SynBa2Dk		1	32	32	WarmTrp		2			
	65	65	PierceCl	2		25	25	32	SmthBa 2		2	58	0	Trombone		1			
	Chromatic Percussion	9	0	Celesta		1	43	43	VelGtHrm		2	18	18	Trmbone2		1			
	10	0	Glocken	1		96	96	40	ModulrBa		2	59	0	Tuba		1			
	11	0	MusicBox	2		26	0	41	DX Bass		2	16	16	Tuba 2		1			
	64	64	Orgel	2		16	16	64	X WireBa		2	60	0	Mute.Trp		1			
	12	0	Vibes	1		35	12	8	Violin		1	61	0	Fr.Horn		2			
	1	1	VibesK	1		40	40	42	0		Viola	1	6	6		FrHrSolo	2		
45	45	HardVibe	2	41	41	43	0	Cello	1	32	32	FrHorn2	1						
13	0	Marimba	1	96	96	44	0	Contrabs	1	37	37	HornOrch	2						
1	1	MarimbaK	1	27	0	45	0	Trem.Str	1	62	0	BrasSect	1						
64	64	SineMrbm	2	18	18	8	SlowTrStr	1	35	35	Tp&TbSec	2							
97	97	Balafon2	2	32	32	40	Susp Str	2	40	40	BrssSec2	2							
98	98	Log Drum	2	28	0	46	0	Pizz.Str	1	41	41	HlBrass	2						
14	0	Xylophon	1	32	32	47	0	Harp	1	42	42	MelloBrs	2						
15	0	TubulBel	1	29	0	40	YangChin	2	63	0	SynBras1	2							
96	96	ChrchBel	2	40	40	48	0	Timpani	1	12	12	QuackBr	2						
97	97	Carillon	2	41	41	20	RezSynBr	2	20	20	RezSynBr	2							
16	0	Dulcimer	1	43	43	24	PolyBrss	2	24	24	PolyBrss	2							
35	35	Dulcimer2	2	45	45	27	SynBras3	2	27	27	SynBras3	2							
96	96	Cimbalom	2	30	0	32	JumpBrss	2	32	32	JumpBrss	2							
97	97	Santur	2	43	43	45	AnaVelBr	2	45	45	AnaVelBr	2							
				31	0	64	AnaBrss1	2	64	64	AnaBrss1	2							
				40	40	18	SynBras2	1	18	18	Soft Brs	2							
				41	41	40	SynBras4	2	40	40	SynBras4	2							
				41	41	41	ChorBrss	2	41	41	ChorBrss	2							
				66	66	45	VelBras2	2	45	45	VelBras2	2							
						64	AnaBras2	2	64	64	AnaBras2	2							

Bank 0 : (GM)
 Bank 1 : Key Scale Panning
 Bank 3 : Stereo
 Bank 6 : Single
 Bank 8 : Slow
 Bank 12 : Fast Decay
 Bank 14 : Double Attack
 Bank 16 : Bright
 Bank 17 : Bright

Bank 18 : Dark
 Bank 19 : Dark
 Bank 20 : Resonant
 Bank 24 : Attack
 Bank 25 : Release
 Bank 27 : Reso Sweep
 Bank 28 : Muted
 Bank 32 : Detune 1
 Bank 33 : Detune 2

Bank 34 : Detune 3
 Bank 35 : Octave 1
 Bank 36 : Octave 2
 Bank 37 : 5th 1
 Bank 38 : 5th 2
 Bank 39 : Bend
 Bank 40 : Tutti
 Bank 41 : Tutti
 Bank 42 : Tutti

Bank 43 : Velo-Switch
 Bank 45 : Velo-Xfade
 Bank 64 : Other wave
 Bank 65 : Other wave
 Bank 66 : Other wave
 Bank 67 : Other wave
 Bank 68 : Other wave
 Bank 69 : Other wave
 Bank 70 : Other wave

Bank 71 : Other wave
 Bank 72 : Other wave
 Bank 96 : Other wave
 Bank 97 : Other wave
 Bank 98 : Other wave
 Bank 99 : Other wave
 Bank 100 : Other wave
 Bank 101 : Other wave

XG Normal Voice List

Instrument Group	Program #	Bank #	Voice Name	Element	
Reed	65	0	SprnoSax	1	
	66	0	Alto Sax	1	
		40	Sax Sect	2	
		43	HyprAlto	2	
	67	0	TenorSax	1	
		40	BrthTnSx	2	
		41	SoftTenr	2	
		64	TnrSax2	1	
	68	0	Bari.Sax	1	
	69	0	Oboe	2	
	70	0	Eng.Horn	1	
	71	0	Bassoon	1	
72	0	Clarinet	1		
Pipe	73	0	Piccolo	1	
	74	0	Flute	1	
	75	0	Recorder	1	
	76	0	PanFlute	1	
	77	0	Bottle	2	
	78	0	Shakhchi	2	
	79	0	Whistle	1	
	80	0	Ocarina	1	
Synth Lead	81	0	SquareLd	2	
		6	Square 2	1	
		8	LMSquare	2	
		18	Hollow	1	
		19	Shmoog	2	
		64	Mellow	2	
		65	SoloSine	2	
		66	SineLead	1	
		82	0	Saw.Lead	2
		6	Saw 2	1	
		8	ThickSaw	2	
		18	DynaSaw	1	
		19	DigiSaw	2	
		20	Big Lead	2	
		24	HeavySyn	2	
		25	WasySyn	2	
		40	PulseSaw	2	
		41	Dr. Lead	2	
		45	VeloLead	2	
		96	Seq Ana	2	
		83	0	CalioPLd	2
		65	Pure Pad	2	
		84	0	Chiff Ld	2
		64	Rubby	2	
		85	0	CharanLd	2
		64	DistLead	2	
		65	WireLead	2	
		86	0	Voice Ld	2
		24	SynthAah	2	
		64	VoxLead	2	
		87	0	Fifth Ld	2
		35	Big Five	2	
	88	0	Bass &Ld	2	
	16	Big&Low	2		
	64	Fat&Prky	2		
	65	SoftWurl	2		
Synth Pad	89	0	NewAgePd	2	
		64	Fantasy2	2	
	90	0	Warm Pad	2	
		16	ThickPad	2	
		17	Soft Pad	2	
		18	SinePad	2	
		64	Horn Pad	2	
		65	RotarStr	2	
		91	0	PolySyPd	2
		64	PolyPd80	2	
		65	ClickPad	2	
		66	Ana Pad	2	
		67	SquarPad	2	

Instrument Group	Program #	Bank #	Voice Name	Element	
Synth Pad	92	0	ChoirPad	2	
		64	Heaven2	2	
		66	Itopia	2	
		67	CC Pad	2	
	93	0	BowedPad	2	
		64	Glacier	2	
		65	GlassPad	2	
	94	0	MetalPad	2	
		64	Tine Pad	2	
		65	Pan Pad	2	
	95	0	Halo Pad	2	
	96	0	SweepPad	2	
		20	Shwimmer	2	
		27	Converge	2	
		64	PolarPad	2	
		66	Celstial	2	
	Synth Effects	97	0	Rain	2
			45	ClaviPad	2
		64	HrmoRain	2	
		65	AfrcnWnd	2	
		66	Caribean	2	
98		0	SoundTrk	2	
		27	Prologue	2	
		64	Ancestri	2	
99		0	Crystal	2	
		12	SynDrCmp	2	
		14	Popcorn	2	
		18	TinyBell	2	
		35	RndGlock	2	
		40	GlockChi	2	
		41	ClearBel	2	
		42	ChorBell	2	
		64	SynMalet	1	
		65	SftCryst	2	
	66	LoudGlok	2		
	67	XmasBell	2		
	68	VibeBell	2		
	69	DigiBell	2		
	70	AirBells	2		
	71	BellHarp	2		
	72	Gamelmba	2		
100	0	Atmosphr	2		
		18	WarmAtms	2	
		19	HollwRis	2	
		40	NylonEP	2	
		64	NylnHarp	2	
		65	Harp Vox	2	
		66	AtmosPad	2	
		67	Planet	2	
	101	0	Bright	2	
		64	FantaBel	2	
		96	Smokey	2	
	102	0	Goblins	2	
		64	GobSyn	2	
		65	50sSciFi	2	
		66	Ring Pad	2	
		67	Ritual	2	
		68	ToHeaven	2	
		70	Night	2	
		71	Glisten	2	
		96	BelChoir	2	
103		0	Echoes	2	
			8	EchoPad2	2
			14	Echo Pan	2
		64	EchoBell	2	
		65	Big Pan	2	
		66	SynPiano	2	
		67	Creation	2	
		68	Stardust	2	
		69	Reso Pan	2	
	104	0	Sci-Fi	2	
		64	Starz	2	

Instrument Group	Program #	Bank #	Voice Name	Element	
Ethnic	105	0	Sitar	1	
		32	DetSitar	2	
		35	Sitar 2	2	
		96	Tambra	2	
		97	Tamboura	2	
	106	0	Banjo	1	
			28	MuteBnjo	1
			96	Rabab	2
			97	Gopichnt	2
			98	Oud	2
		107	0	Shamisen	1
		108	0	Koto	1
			96	T. Koto	2
			97	Kanoon	2
		109	0	Kalimba	1
		110	0	Bagpipe	2
		111	0	Fiddle	1
	112	0	Shanai	1	
	64	Shanai2	1		
	96	Pungi	1		
	97	Hichriki	2		
Percussive	113	0	TnkIBell	2	
		96	Bonang	2	
		97	Gender	2	
		98	Gamelan	2	
		99	S.Gamlan	2	
		100	Rama Cym	2	
		101	AsianBel	2	
	114	0	Agogo	2	
	115	0	SteelDrm	2	
			97	GlasPerc	2
			98	ThaiBell	2
		116	0	WoodBlok	1
			96	Castanet	1
		117	0	TaikoDrm	1
		96	Gr.Cassa	1	
	118	0	MelodTom	2	
			64	Mel Tom2	1
			65	Real Tom	2
		66	Rock Tom	2	
119		0	Syn.Drum	1	
		64	Ana Tom	1	
	65	ElecPerc	2		
120	0	RevCymbl	1		
Sound Effects	121	0	FretNoiz	2	
	122	0	BrthNoiz	2	
	123	0	Seashore	2	
	124	0	Tweet	2	
	125	0	Telephone	1	
	126	0	Helicptr	1	
	127	0	Applause	1	
	128	0	Gunshot	1	

Bank Select MSB=064, LSB=000 SFX voice

Program #	MSB=064 LSB=000	Element	Program #	MSB=064 LSB=000	Element
1	CuttngNz	1	65	Tel.Dial	1
2	CttngNz2	2	66	DoorSqek	1
3			67	Door Slam	1
4	Str Slap	1	68	Scratch	1
5			69	Scratch 2	2
6			70	WindChm	1
7			71	Telphon2	1
8			72		
9			73		
10			74		
11			75		
12			76		
13			77		
14			78		
15			79		
16			80		
17	FL.KClik	1	81	CarEngin	1
18			82	Car Stop	1
19			83	Car Pass	1
20			84	CarCrash	1
21			85	Siren	2
22			86	Train	1
23			87	Jetplane	2
24			88	Starship	2
25			89	Burst	2
26			90	Coaster	2
27			91	SbMarine	2
28			92		
29			93		
30			94		
31			95		
32			96		
33	Rain	1	97	Laughing	1
34	Thunder	1	98	Scream	1
35	Wind	1	99	Punch	1
36	Stream	2	100	Heart	1
37	Bubble	2	101	FootStep	1
38	Feed	2	102		
39			103		
40			104		
41			105		
42			106		
43			107		
44			108		
45			109		
46			110		
47			111		
48			112		
49	Dog	1	113	MchinGun	1
50	Horse	1	114	LaserGun	2
51	Bird 2	1	115	Xplosion	2
52			116	FireWork	2
53			117		
54			118		
55	Ghost	2	119		
56	Maou	2	120		
57			121		
58			122		
59			123		
60			124		
61			125		
62			126		
63			127		
64			128		

█ : No Sound

TG300B Normal Voice List

Bank Select MSB=Bank Number, LSB=000

Instrument Group	Program #	Bank #	Voice Name	Element	Instrument Group	Program #	Bank #	Voice Name	Element	Instrument Group	Program #	Bank #	Voice Name	Element	Instrument Group	Program #	Bank #	Voice Name	Element				
Piano	1	0	GrandPno	1	Organ	17	0	DrawOrgn	1	Guitar	29	0	Mute.Gtr	1	Strings	41	0	Violin	1				
		8	GndPnoK	1			1	8	FunkGtr1			2	8	SlowVln			1						
		16	MelloGrP	1			2	16	FunkGtr2			2	126	E-Organ4			2						
		126	A-Piano1	2			9	A-Bass	2			127	syncho1	2									
		127	a.piano1	1			16	synbass1	1			42	0	Viola			1						
		0	BritePno	1			17	60sDrOr1	2			126	E-Organ5	2									
		8	BritPnoK	1			18	60sDrOr2	2			127	rain	2									
		126	A-Piano2	2			24	60sDrOr3	2			31	0	Ovrdrive			1						
		127	a.piano2	1			32	CheezOrg	2			126	Choir-1	1									
		0	E.Grand	2			33	DrawOrg2	2			127	synbass2	1									
		1	ElGrPno1	2			40	EvenBar	2			0	Dist.Gtr	1									
		2	ElGrPno2	2			126	Organ Ba	1			8	FeedbkGt	2									
		8	ElGrPnoK	2			127	Slap-2	2			9	FeedbkG2	2									
		126	A-Piano3	2			18	harpsi1	1			126	Choir-2	1									
		127	a.piano3	1			19	perc1	1			127	synbass3	2									
		0	HnkyTonk	2			20	PercOrg1	2			0	GtrHarmo	1									
	8	HnkyTrnkK	2	8		70sPcOr1	2	8	GtFeedbk		1												
	126	A-Piano4	2	32		DetPrOr	2	126	Choir-3		2												
	127	e.piano1	1	126		PercOrg2	2	127	synbass4		1												
	0	E.Piano1	2	19		Slap-3	2	0	Aco.Bass		1												
	8	Chor.EP1	2	127		harpsi2	2	126	Choir-4		2												
	16	VX EI.P1	2	20		RockOrgn	2	127	newagepd		2												
	24	60sEI.P	1	8		RotaryOr	2	34	0		FngrBass	1											
	25	HardEI.P	2	16		SioRotar	2	1	FngBass2		2												
	26	MelloEP1	2	24		FstRotar	2	126	Strngs-1		2												
	32	El.Pno1K	1	126		Slap-4	2	127	synharmo		2												
	126	A-Piano5	1	127		harpsi3	1	0	PickBass		1												
	127	e.piano2	1	20		ChrchOrg	2	8	MutePkBa		1												
	0	E.Piano2	2	8		ChurOrg2	2	126	Strngs-2		2												
	8	Chor.EP2	2	16		ChurOrg3	2	127	choir pd		2												
	16	VX EI.P2	2	24		OrgFlute	2	36	0		Fretless	1											
	24	DX Hard	2	32		TrmOrgFl	2	1	Fretles2		2												
	32	El.Pno2K	1	126		Slap-5	2	2	Fretles3		2												
	126	A-Piano6	1	127		clavi1	1	3	Fretles4		2												
	127	e.piano3	1	21		ReedOrgn	1	4	SynFretl		2												
	0	Harpsi.	1	22		0	2	5	Smooth		2												
	8	Harpsi.3	2	0		Accordlt	2	126	Strngs-3		2												
	16	Harpsi.K	1	126		Slap-7	2	127	bowed pd		2												
	24	Harpsi.2	2	127		clavi3	1	37	0		SlapBas1	1											
	126	A-Piano7	1	23		Harmnica	1	8	ResoSlap		1												
	127	e.piano4	1	1		Harmo 2	2	126	Strngs-4		2												
	0	Clavi.	2	126		celesta1	1	127	soundtrk		2												
	8	Clavi. K	1	127		celesta2	1	38	0		SlapBas2	1											
	126	E-Piano1	2	24		TangoAcc	2	126	E-Organ1		2												
	127	hnkytnk	2	127		Finger-1	1	127	atmosphr		2												
	Chromatic Percussion	9	0	Celesta		1	Guitar	25	0		NylonGtr	1	Bass	33		0	Aco.Bass	1	Ensemble	49	0	Strings1	1
			126	E-Piano2		2			8		Ukulele	1				1	Slow Str	1					
			127	e.organ1		2			16		NylonGt3	2				8	Orchestr	2					
			0	Glocken		1			24		VelGtHrm	2				9	Orchstr2	2					
			126	E-Piano3		2			32		NylonGt2	1				10	TremOrch	2					
			127	e.organ2		2			40		LequintG	1				11	ChoirStr	2					
			0	MusicBox		2			126		Finger-2	2				16	S.Strngs	2					
			126	A-Guitr1		1			127		synbras1	2				24	VeloStr	2					
			127	e.organ3		1			26		0	2				126	TP/TRB-1	1					
			0	Vibes		1			0		SteelGtr	1				127	strsect1	2					
			1	HardVibe		2			8		12StrGtr	2				0	Strings2	1					
8			VibesK	1	9	Nyn&Stl			2	1	70s Str	1											
126			A-Guitr2	2	16	Mandolin			2	8	LegatoSt	2											
127			e.organ4	1	32	SteelGt2			1	9	Warm Str	2											
0			Marimba	1	126	Picked-1			1	10	S.SlwStr	2											
8			MarimbaK	1	127	synbras2			2	126	TP/TRB-2	1											
17	Balafon2	2	27	0	1	127	strsect2	2															
24	Log Drum	2	1	Jazz Gtr	1	0	Syn.Str1	1															
126	A-Guitr3	2	8	MelloGtr	1	1	Syn.Str4	2															
127	pipeorg1	2	126	PdlSteel	2	126	TP/TRB-3	1															
0	Xylophon	1	127	Picked-2	2	127	strsect3	2															
126	E-Guitr1	2	28	0	2	0	Syn.Str2	2															
127	pipeorg2	2	8	CleanGtr	1	126	TP/TRB-4	1															
0	TubulBel	1	126	ChorusGt	2	127	pizz.str	1															
8	ChrchBel	2	127	FretlBs	1	53	0	ChoirAah	1														
9	Carillon	2	8	synbras4	2	8	S.Choir	2															
126	E-Guitr2	1	126	0	2	9	MelChoir	2															
127	pipeorg3	2	127	0	2	32	Ch.Aahs2	2															
0	Dulcimer	1	27	0	1	126	TP/TRB-5	2															
1	Dulcimer2	2	1	MelloGtr	1	127	violin 1	2															
8	Cimbalom	2	8	PdlSteel	2	0	VoiceOoh	1															
126	Slap-1	2	126	Picked-2	2	126	TP/TRB-6	2															
127	acordion	2	127	synbras3	2	127	violin 2	1															
						19	SmthBa 2	2															
						126	E-Organ3	2															
						127	synfunny	1															

C/M Normal Voice List


Pgm#	TYPE1 Part1 '9	TYPE2 Part11 '16
1	a.piano1	A-Piano1
2	a.piano2	A-Piano2
3	a.piano3	A-Piano3
4	e.piano1	A-Piano4
5	e.piano2	A-Piano5
6	e.piano3	A-Piano6
7	e.piano4	A-Piano7
8	hnkytnk	E-Piano1
9	e.organ1	E-Piano2
10	e.organ2	E-Piano3
11	e.organ3	A-Guitr1
12	e.organ4	A-Guitr2
13	pipeorg1	A-Guitr3
14	pipeorg2	E-Guitr1
15	pipeorg3	E-Guitr2
16	acordion	Slap-1
17	harpsi1	Slap-2
18	harpsi2	Slap-3
19	harpsi3	Slap-4
20	clavi1	Slap-5
21	clavi2	Slap-6
22	clavi3	Slap-7
23	celesta1	Slap-8
24	celesta2	Finger-1
25	synbras1	Finger-2
26	synbras2	Picked-1
27	synbras3	Picked-2
28	synbras4	FretlsBs
29	synbass1	A-Bass
30	synbass2	Choir-1
31	synbass3	Choir-2
32	synbass4	Choir-3
33	newagepd	Choir-4
34	synharmo	Strngs-1
35	choir pd	Strngs-2
36	bowed pd	Strngs-3
37	soundtrk	Strngs-4
38	atmosphr	E-Organ1
39	syn warm	E-Organ2
40	synfunny	E-Organ3
41	synecho1	E-Organ4
42	rain	E-Organ5
43	synoboe	E-Organ6
44	synecho2	E-Organ7
45	synsolo	E-Organ8
46	synrdorg	E-Organ9
47	synbell	SoftTP-1
48	squareld	SoftTP-2
49	strsect1	TP/TRB-1
50	strsect2	TP/TRB-2
51	strsect3	TP/TRB-3
52	pizz.str	TP/TRB-4
53	violin 1	TP/TRB-5
54	violin 2	TP/TRB-6
55	cello 1	Sax-1
56	cello 2	Sax-2
57	contrabs	Sax-3
58	harp 1	Sax-4
59	harp 2	Brass-1
60	guitar 1	Brass-2
61	guitar 2	Brass-3
62	elecgr1	Brass-4
63	elecgr2	Brass-5
64	sitar	Orch-Hit

Pgm#	TYPE1 Part1 '9	TYPE2 Part11 '16
65	a.bass 1	
66	a.bass 2	
67	e.bass 1	
68	e.bass 2	
69	slapbas1	
70	slapbas2	
71	fretles1	
72	fretles2	
73	flute1	
74	flute2	
75	piccolo1	
76	piccolo2	
77	recorder	
78	panpipes	
79	sax1	
80	sax2	
81	sax3	
82	sax4	
83	clarint1	
84	clarint2	
85	oboe	
86	eng.horn	
87	bassoon	
88	harmnica	
89	trumpet1	
90	trumpet2	
91	trmbone1	
92	trmbone2	
93	fr.horn1	
94	fr.horn2	
95	tuba	
96	brssect1	
97	brssect2	
98	vibe1	
99	vibe2	
100	symallet	
101	maletwin	
102	glocken	
103	tubulbel	
104	xylophon	
105	marimba	
106	koto	
107	sho	
108	shakhchi	
109	whistle1	
110	whistle2	
111	bottle	
112	breath	
113	timpani	
114	melotom	
115	deepsnar	
116	e.perc1	
117	e.perc2	
118	taiko	
119	taikorim	
120	cymbal	
121	castanet	
122	triangle	
123	orchehit	
124	telephone	
125	bird	
126	jam	
127	efctwatr	
128	efctjngl	

■ : No Sound

DOC Normal Voice List

Pgm#	Voice Name	Pgm#	Voice Name
1	Brass	65	PipeOrgn
2	Trumpet	66	JazOrgn1
3	Fr.Horn	67	SynBrass
4	Sax	68	Sax
5	Clarinet	69	ClavTone
6	Oboe	70	RockGtr2
7	Flute 1	71	Mute Gtr
8	Acordion	72	U.Bass-M
9	Strings	73	JazzGtr2
10	Violin	74	PopBrass
11	FullOrgn	75	Str-Mild
12	JazOrgn1	76	Violin-H
13	Piano	77	P.Organ
14	E.Piano1	78	Sax-Mild
15	Harpsi.	79	E.Bass-H
16	Celesta	80	Flute 2
17	Vibes	81	Bassoon
18	Marimba	82	Cham.Str
19	Harpsi.	83	JazOrgn2
20	Vibes	84	
21	SynBrass	85	
22		86	
23	SynCrstl	87	
24	Timpani	88	
25	Gut Gtr	89	Dist.Gtr
26	JazzGtr1	90	Cosmic 1
27	RockGtr1	91	Cosmic 2
28	Harpsi.	92	Cosmic 3
29	U.Bass	93	Orch.Hit
30	E.Bass	94	
31	E.Bass/S	95	
32	Syn.Bass	96	
33		97	
34		98	
35		99	
36		100	
37		101	
38		102	
39		103	
40		104	
41	Mute Trp	105	
42	Harmnica	106	
43	Choir	107	
44	JazOrgn1	108	
45	Syn.Wood	109	
46	Syn.Str	110	
47	SynChoir	111	
48	Piano	112	
49	Piano-M	113	
50	Piano	114	
51	E.Piano2	115	
52	Piano-B	116	
53	Piano-B	117	
54	Folk Gtr	118	
55	Rock Gtr	119	
56	Banjo	120	
57	Pizz.	121	
58	Harp	122	
59		123	
60		124	
61	Brass	125	
62	Flute	126	
63	Strings	127	
64	Choir	128	

 : Can't be selected

XG Drum Voice List

Bank Select MSB=Bank Number, LSB=000

Bank	127	127	127	127	127	127	127	127	127	126	126			
Program #	1	2	9	17	25	26	33	41	49	1	2			
Note#	Note	Key off	Alternate Assign	Standard Kit	Standard2 Kit	Room Kit	Rock Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Classic Kit	SFX 1	SFX 2
13	C# -1		3	Surdo Mute										
14	D -1		3	Surdo Open										
15	D# -1			Hi Q										
16	E -1			Whip Slap										
17	F -1		4	Scratch Push										
18	F# -1		4	Scratch Pull										
19	G -1			Finger Snap										
20	G# -1			Click Noise										
21	A -1			Metronome Click										
22	A# -1			Metronome Bell										
23	B -1			Seq Click L										
24	C 0			Seq Click H										
25	C# 0			Brush Tap										
26	D 0	O		Brush Swirl L										
27	D# 0			Brush Slap										
28	E 0	O		Brush Swirl H				Reverse Cymbal	Reverse Cymbal					
29	F 0	O		Snare Roll	Snare Roll 2									
30	F# 0			Castanet				Hi Q	Hi Q					
31	G 0			Snare L	Snare L 2		SD Rock M	Snare M	SD Rock H		Brush Slap L			
32	G# 0			Sticks										
33	A 0			Bass Drum L		Bass Drum M	Bass Drum H 4	Bass Drum M				Bass Drum L2		
34	A# 0			Open Rim Shot	Open Rim Shot 2									
35	B 0			Bass Drum M	Bass Drum M 2		Bass Drum H 3	BD Rock	BD Analog L				Gran Cassa	
36	C 1			Bass Drum H	Bass Drum H 2		BD Rock	BD Gate	BD Analog H	BD Jazz	BD Soft	Gran Cassa Mute	Guitar Cutting Noise	Dial Tone
37	C# 1			Side Stick					Analog Side Stick				Guitar Cutting Noise 2	Door Creaking
38	D 1			Snare M	Snare M 2	SD Room L	SD Rock	SD Rock L	Analog Snare L		Brush Slap M	Marching Sn M		Door Slam
39	D# 1			Hand Clap									String Slap	Scratch
40	E 1			Snare H	Snare H 2	SD Room H	SD Rock Rim	SD Rock H	Analog Snare H		Brush Tap H	Marching Sn H		Scratch 2
41	F 1			Floor Tom L		Room Tom 1	Rock Tom 1	E Tom 1	Analog Tom 1	Jazz Tom 1	Brush Tom 1	Jazz Tom 1		Windchime
42	F# 1		1	Hi-Hat Closed					Analog HH Closed 1					Telephone Ring2
43	G 1			Floor Tom H		Room Tom 2	Rock Tom 2	E Tom 2	Analog Tom 2	Jazz Tom 2	Brush Tom 2	Jazz Tom 2		
44	G# 1		1	Hi-Hat Pedal					Analog HH Closed 2					
45	A 1			Low Tom		Room Tom 3	Rock Tom 3	E Tom 3	Analog Tom 3	Jazz Tom 3	Brush Tom 3	Jazz Tom 3		
46	A# 1		1	Hi-Hat Open					Analog HH Open					
47	B 1			Mid Tom L		Room Tom 4	Rock Tom 4	E Tom 4	Analog Tom 4	Jazz Tom 4	Brush Tom 4	Jazz Tom 4		
48	C 2			Mid Tom H		Room Tom 5	Rock Tom 5	E Tom 5	Analog Tom 5	Jazz Tom 5	Brush Tom 5	Jazz Tom 5		
49	C# 2			Crash Cymbal 1					Analog Cymbal				Hand Cym.Open L	
50	D 2			High Tom		Room Tom 6	Rock Tom 6	E Tom 6	Analog Tom 6	Jazz Tom 6	Brush Tom 6	Jazz Tom 6		
51	D# 2			Ride Cymbal 1									Hand Cym.Closed L	
52	E 2			Chinese Cymbal									FL Key Click	Engine Start
53	F 2			Ride Cymbal Cup										Tire Screech
54	F# 2			Tambourine										Car Passing
55	G 2			Splash Cymbal										Crash
56	G# 2			Cowbell					Analog Cowbell					Siren
57	A 2			Crash Cymbal 2								Hand Cym.Open H		Train
58	A# 2			Vibraslap										Jetplane
59	B 2			Ride Cymbal 2								Hand Cym.Closed H		Starship
60	C 3			Bongo H										Burst Noise
61	C# 3			Bongo L										Coaster
62	D 3			Conga H Mute					Analog Conga H					SbMarine
63	D# 3			Conga H Open					Analog Conga M					
64	E 3			Conga L					Analog Conga L					
65	F 3			Timbale H										
66	F# 3			Timbale L										
67	G 3			Agogo H										
68	G# 3			Agogo L										
69	A 3			Cabasa									Rain	Laughing
70	A# 3			Maracas					Analog Maracas				Thunder	Screaming
71	B 3	O		Samba Whistle H									Wind	Punch
72	C 4	O		Samba Whistle L									Stream	Heartbeat
73	C# 4			Guiro Short									Bubble	Footsteps
74	D 4	O		Guiro Long									Feed	
75	D# 4			Claves					Analog Claves					
76	E 4			Wood Block H										
77	F 4			Wood Block L										
78	F# 4			Cuica Mute				Scratch Push	Scratch Push					
79	G 4			Cuica Open				Scratch Pull	Scratch Pull					
80	G# 4		2	Triangle Mute										
81	A 4		2	Triangle Open										
82	A# 4			Shaker										
83	B 4			Jingle Bell										
84	C 5			Bell Tree									Dog	Machine Gun
85	C# 5												Horse Gallop	Laser Gun
86	D 5												Bird 2	Explosion
87	D# 5													FireWork
88	E 5													
89	F 5													
90	F# 5												Ghost	
91	G 5												Maou	

☐ : Same as Standard Kit

■ : No Sound

* Drum and percussion sounds assigned to the same Alternate Assign numbered group cannot be sounded simultaneously. For example, the Hi-Hat Open sound (group 1) and Hi-Hat Closed sound (also group 1) cannot be sounded at the same time.

TG300B Drum Voice List

Program #	1	9	17	25	26	33	41	49	57	128		
Note#	Note	Alternate Assign	Standard Kit	Room Kit	Power Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Orchestra Kit	SFX Set	C/M Kit
25	C# 0		Snare Roll									
26	D 0		Finger Snap									
27	D# 0		Hi Q							Hi-Hat Closed		
28	E 0		Whip Slap							Hi-Hat Pedal		
29	F 0 7		Scratch Push							Hi-Hat Open		
30	F# 0 7		Scratch Pull							Ride Cymbal 1		
31	G 0		Sticks									
32	G# 0		Click Noise									
33	A 0		Metronome Click									
34	A# 0		Metronome Bell									
35	B 0		Bass Drum M							BD Jazz		
36	C 1		Bass Drum H		BD Power	BD Electronic	BD Analog H	BD Jazz	BD Soft	Gran Cassa		
37	C# 1		Side Stick				Analog Side Stick					
38	D 1		Snare M		SD Power	SD Electronic	Analog Snare L		Brush Tap	Concert SD		
39	D# 1		Hand Clap						Brush Slap	Castanet	High-Q	
40	E 1		Snare H			SD Power			Brush Swirl	Concert SD	Slap	SD Electro
41	F 1		Floor Tom L	Room Tom 1	Room Tom 1	E Tom 1	Analog Tom 1	Jazz Tom 1	Jazz Tom 1	Timpani F	Scratch Push	
42	F# 1 1		Hi-Hat Closed				Analog HH Closed 1			Timpani F#	Scratch Pull	
43	G 1		Floor Tom H	Room Tom 2	Room Tom 2	E Tom 2	Analog Tom 2	Jazz Tom 2	Jazz Tom 2	Timpani G	Sticks	
44	G# 1 1		Hi-Hat Pedal				Analog HH Closed 2			Timpani G#	Square Click	Hi-Hat Open 1
45	A 1		Low Tom	Room Tom 3	Room Tom 3	E Tom 3	Analog Tom 3	Jazz Tom 3	Jazz Tom 3	Timpani A	Metronome Click	
46	A# 1 1		Hi-Hat Open				Analog HH Open			Timpani A#	Metronome Bell	Hi-Hat Open 2
47	B 1		Mid Tom L	Room Tom 4	Room Tom 4	E Tom 4	Analog Tom 4	Jazz Tom 4	Jazz Tom 4	Timpani B	Guitar Fret Noise	
48	C 2		Mid Tom H	Room Tom 5	Room Tom 5	E Tom 5	Analog Tom 5	Jazz Tom 5	Jazz Tom 5	Timpani C	Guitar Cutting Down	
49	C# 2		Crash Cymbal 1				Analog Cymbal			Timpani C#	Guitar Cutting Up	
50	D 2		High Tom	Room Tom 6	Room Tom 6	E Tom 6	Analog Tom 6	Jazz Tom 6	Jazz Tom 6	Timpani D	Ac Bass Slap	
51	D# 2		Ride Cymbal 1							Timpani D#	FL-Key Click	
52	E 2		Chinese Cymbal			Reverse Cymbal				Timpani E	Laughing	
53	F 2		Ride Cymbal Cup							Timpani F	Screaming	
54	F# 2		Tambourine								Punch	
55	G 2		Splash Cymbal								Heartbeat	
56	G# 2		Cowbell				Analog Cowbell				Footsteps 1	
57	A 2		Crash Cymbal 2							Hand Cym.1	Footsteps 2	
58	A# 2		Vibraslap								Applause	
59	B 2		Ride Cymbal 2							Hand Cym.2	Door Creaking	
60	C 3		Bongo H								Door Slam	
61	C# 3		Bongo L								Scratch	
62	D 3		Conga H Mute				Analog Conga H				Windchime	
63	D# 3		Conga H Open				Analog Conga M				Engine Start	
64	E 3		Conga L				Analog Conga L				Tire Screech	
65	F 3		Timbale H								Car Passing	
66	F# 3		Timbale L								Crash	
67	G 3		Agogo H								Siren	
68	G# 3		Agogo L								Train	
69	A 3		Cabasa								Jetplane	
70	A# 3		Maracas				Analog Maracas				Helicopter	
71	B 3 2		Samba Whistle H								Starship	
72	C 4 2		Samba Whistle L								Gunshot	
73	C# 4 3		Guiro Short								Machine Gun	Vibraslap
74	D 4 3		Guiro Long								Laser Gun	
75	D# 4		Claves				Analog Claves				Explosion	
76	E 4		Wood Block H								Dog	Laughing
77	F 4		Wood Block L								Horse Gallop	Screaming
78	F# 4 4		Cuica Mute								Bird Tweet	Punch
79	G 4 4		Cuica Open								Rain	Heartbeat
80	G# 4 5		Triangle Mute								Thunder	Footsteps 1
81	A 4 5		Triangle Open								Wind	Footsteps 2
82	A# 4		Shaker								Seashore	Applause
83	B 4		Jingle Bell								Stream	Door Creaking
84	C 5		Bell Tree								Bubble	Door Slam
85	C# 5		Castanet									Scratch
86	D 5 6		Surdo Mute									Windchime
87	D# 5 6		Surdo Open									Engine Start
88	E 5								Applause			Tire Screech
89	F 5											Car Passing
90	F# 5											Crash
91	G 5											Siren
92	G# 5											Train
93	A 5											Jetplain
94	A# 5											Helicopter
95	B 5											Starship
96	C 6											Gunshot
97	C# 6											Machine Gun
98	D 6											Laser Gun
99	D# 6											Explosion
100	E 6											Dog
101	F 6											Horse Gallop
102	F# 6											Bird Tweet
103	G 6											Rain
104	G# 6											Thunder
105	A 6											Wind
106	A# 6											Seashore
107	B 6											Stream
108	C 7											Bubble

☐ : Same as Standard Kit

☐ : No Sound

C/M Drum Voice List

Note#	Note	Alternate Assign	C/M Kit
35	B0	Bass	Drum M
36	C1	Bass	Drum H
37	C#1	Side Stick	
38	D1	Snare M	
39	D#1	Hand	Clap
40	E1	SD	Electro
41	F1	Floor Tom	L
42	F#1	1 Hi-Hat	Closed
43	G1	Floor Tom	H
44	G#1	1 Hi-Hat	Open 1
45	A1	Low Tom	
46	A#1	1 Hi-Hat	Open 2
47	B1	Mid Tom L	
48	C2	Mid Tom H	
49	C#2	Crash	Cymbal 1
50	D2	High Tom	
51	D#2	Ride	Cymbal 1
52	E2		
53	F2		
54	F#2		Tambourine
55	G2		
56	G#2	Cowbell	
57	A2		
58	A#2		
59	B2		
60	C3	Bongo H	
61	C#3	Bongo L	
62	D3	Conga H	Mute
63	D#3	Conga H	Open
64	E3	Conga L	
65	F3	Timbale H	
66	F#3	Timbale L	
67	G3	Agogo H	
68	G#3	Agogo L	
69	A3	Cabasa	
70	A#3	Maracas	
71	B3	2 Samba	Whistle H
72	C4	2 Samba	Whistle L
73	C#4	Vibraslap	
74	D4		
75	D#4	Claves	
76	E4	Laughing	
77	F4		Screaming
78	F#4	Punch	
79	G4	Heartbeat	
80	G#4	Footsteps	1
81	A4	Footsteps	2
82	A#4	Applause	
83	B4	Door	Creaking
84	C5	Door	Slam
85	C#5	Scratch	
86	D5		Windchime
87	D#5	Engine	Start
88	E5	Tire	Screech
89	F5	Car	Passing
90	F#5	Crash	
91	G5	Siren	
92	G#5	Train	
93	A5	Jetplane	
94	A#5	Helicopter	
95	B5	Starship	
96	C6	Gunshot	
97	C#6	Machine	Gun
98	D6	Laser	Gun
99	D#6	Explosion	
100	E6	Dog	
101	F6	Horse	Gallop
102	F#6	Bird	Tweet
103	G6	Rain	
104	G#6	Thunder	
105	A6	Wind	
106	A#6	Seashore	
107	B6	Stream	
108	C7	Bubble	

DOC Drum Voice List

Note#	Note	Alternate Assign	DOC Kit
21	A-	1 Cymbal	Mute
22	A#-1		
23	B-	1	
24	C0		
25	C#0		
26	D0		
27	D#0		
28	E0		
29	F0		
30	F#0	1 Brush	Roll
31	G0		
32	G#0	2 Hi-Hat	closed heavy
33	A0		
34	A#0	Crash	Cymbal light
35	B0	BD	light
36	C1	SD+RIM	heavy
37	C#1	Ride	Cymbal cup
38	D1	SD+RIM	light
39	D#1		
40	E1		
41	F1	BD norm	
42	F#1	Rim Shot	
43	G1	SD heavy	
44	G#1	1 Brush	Shot
45	A1	SD light	
46	A#1	2 Hi-Hat	pedal
47	B1	SD echo	
48	C2	Tom 4	
49	C#2	2 Hi-Hat	closed norm
50	D2	Tom 3	
51	D#2	2 Hi-Hat	open
52	E2	Tom 2	
53	F2	Tom 1	
54	F#2	Ride	Cymbal norm
55	G2	E.Tom 3	
56	G#2	Crash	Cymbal norm
57	A2	E.Tom 2	
58	A#2	Crash	Cymbal norm
59	B2	E.Tom 1	
60	C3	Conga L	
61	C#3	Cabasa	
62	D3	Conga H	
63	D#3		Metronome
64	E3	Bongo H	
65	F3	Timbale L	
66	F#3	Claves	
67	G3	Timbale H	
68	G#3	Castanets	
69	A3	Cuica L	
70	A#3	Cowbell	
71	B3	Cuica H	
72	C4		Handclaps
73	C#4	Agogo L	
74	D4		
75	D#4	Agogo H	
76	E4	Bongo L	
77	F4	Cuica L	
78	F#4		Tambourine
79	G4	Crash	Cymbal norm
80	G#4	3 Triangle	closed
81	A4	Brush	Roll
82	A#4	3 Triangle	open

Effect Type List

REVERB

Exclusive		Effect Type	Description
MSB	LSB		
00	00	NO EFFECT	Effect turned off.
01	00	HALL1	Reverb simulating the resonance of a hall.
01	01	HALL2	Reverb simulating the resonance of a hall.
02	00	ROOM1	Reverb simulating the resonance of a room.
02	01	ROOM2	Reverb simulating the resonance of a room.
02	02	ROOM3	Reverb simulating the resonance of a room.
03	00	STAGE1	Reverb appropriate for a solo instrument.
03	01	STAGE2	Reverb appropriate for a solo instrument.
04	00	PLATE	Reverb simulating a metal plate reverb unit.
10	00	WHITE ROOM	A unique short reverb with a bit of initial delay.
11	00	TUNNEL	Simulation of a tunnel space expanding to left and right.
13	00	BASEMENT	A bit of initial delay followed by reverb with a unique resonance.

CHORUS

Exclusive		Effect Type	Description
MSB	LSB		
00	00	NO EFFECT	Effect turned off.
41	00	CHORUS1	Conventional chorus program that adds natural spaciousness.
41	01	CHORUS2	Conventional chorus program that adds natural spaciousness.
41	02	CHORUS3	Conventional chorus program that adds natural spaciousness.
41	08	CHORUS4	Chorus with stereo input. The pan setting specified for the Part will also apply to the effect sound.
42	00	CELESTE1	A 3-phase LFO adds modulation and spaciousness to the sound.
42	01	CELESTE2	A 3-phase LFO adds modulation and spaciousness to the sound.
42	02	CELESTE3	A 3-phase LFO adds modulation and spaciousness to the sound.
42	08	CELESTE4	Celeste with stereo input. The pan setting specified for the Part will also apply to the effect sound.
43	00	FLANGER1	Adds a jet-airplane effect to the sound.
43	01	FLANGER2	Adds a jet-airplane effect to the sound.
43	08	FLANGER3	Adds a jet-airplane effect to the sound.

VARIATION

Exclusive		Effect Type	Description
MSB	LSB		
00	00	NO EFFECT	Effect turned off.
01	00	HALL1	Reverb simulating the resonance of a hall.
01	01	HALL2	Reverb simulating the resonance of a hall.
02	00	ROOM1	Reverb simulating the resonance of a room.
02	01	ROOM2	Reverb simulating the resonance of a room.
02	02	ROOM3	Reverb simulating the resonance of a room.
03	00	STAGE1	Reverb appropriate for a solo instrument.
03	01	STAGE2	Reverb appropriate for a solo instrument.
04	00	PLATE	Reverb simulating a metal plate reverb unit.
05	00	DELAY L,C,R	A program that creates three delay sounds; L, R, and C (center).
06	00	DELAY L,R	A program that creates two delay sounds; L and R. Two feedback delays are provided.
07	00	ECHO	Two delays (L and R) and independent feedback delays for L and R.
08	00	CROSS DELAY	A program that crosses the feedback of two delays.
09	00	EARLY REF1	An effect that produces only the early reflection component of reverb.
09	01	EARLY REF2	An effect that produces only the early reflection component of reverb.
0A	00	GATE REVERB	A simulation of gated reverb.
0B	00	REVERSE GATE	A program that simulates gated reverb played backwards.
14	00	KARAOKE 1	A delay with feedback of the same types as used for karaoke reverb.
14	01	KARAOKE 2	A delay with feedback of the same types as used for karaoke reverb.
14	02	KARAOKE 3	A delay with feedback of the same types as used for karaoke reverb.
41	00	CHORUS1	Conventional chorus program that adds natural spaciousness.
41	01	CHORUS2	Conventional chorus program that adds natural spaciousness.
41	02	CHORUS3	Conventional chorus program that adds natural spaciousness.
41	08	CHORUS4	Chorus with stereo input.
42	00	CELESTE1	A 3-phase LFO adds modulation and spaciousness to the sound.
42	01	CELESTE2	A 3-phase LFO adds modulation and spaciousness to the sound.
42	02	CELESTE3	A 3-phase LFO adds modulation and spaciousness to the sound.
42	08	CELESTE4	Celeste with stereo input.
43	00	FLANGER1	Adds a jet-airplane effect to the sound.
43	01	FLANGER2	Adds a jet-airplane effect to the sound.
43	08	FLANGER3	Adds a jet-airplane effect to the sound.
44	00	SYMPHONIC	A multi-phase version of CELESTE.
45	00	ROTARY SPEAKER	A simulation of a rotary speaker. You can use AC1 (assignable controller) etc. to control the speed of rotation.
46	00	TREMOLO	An effect that cyclically modulates the volume.
47	00	AUTO PAN	A program that cyclically moves that sound image to left and right, front and back.
48	00	PHASER1	Cyclically changes the phase to add modulation to the sound.
48	08	PHASER2	Phaser with stereo input.
49	00	DISTORTION	Adds a sharp-edged distortion to the sound.
4A	00	OVER DRIVE	Adds mild distortion to the sound.
4B	00	AMP SIMULATOR	A simulation of a guitar amp.
4C	00	3BAND EQ(MONO)	A mono EQ with adjustable LOW, MID, and HIGH equalizing.
4D	00	2BAND EQ(STEREO)	A stereo EQ with adjustable LOW and HIGH. Ideal for drum Parts.
4E	00	AUTO WAH(LFO)	Cyclically modulates the center frequency of a wah filter. With an AC1 etc. this can function as a pedal wah.
40	00	THRU	Bypass without applying an effect.

* MSB, LSB is represented in hexadecimal. * LSB = 0 is the basic effect type.

Effect Parameter List

HALL1,2, ROOM1,2,3 ,STAGE1,2, PLATE

No. *	Parameter	Range	Value	→ App-30**	Control
1	Reverb Time	0.3-30.0s	0-69	table#4	
2	Diffusion	0-10	0-10		
3	Initial Delay	0-63	0-63	table#5	
4	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
5	LPF Cutoff	1.0k-Thru	34-60	table#3	
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Rev Delay	0-63	0-63	table#5	
12	Density	0-3	0-3		
13	Er/ Rev Balance	E63> R- E=R ~ E<R63	1-127		
14					
15	Feedback Level	-63→+63	1-127		
16					

ECHO

No. *	Parameter	Range	Value	→ App-30**	Control
1	Lch Delay1	0.1-355.0ms	1-3550		
2	Lch Feedback Level	-63→+63	1-127		
3	Rch Delay1	0.1-355.0ms	1-3550		
4	Rch Feedback Level	-63→+63	1-127		
5	High Damp	0.1-1.0	1-10		
6	Lch Delay2	0.1-355.0ms	1-3550		
7	Rch Delay2	0.1-355.0ms	1-3550		
8	Delay2 Level	0-127	0-127		
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
14	EQ Low Gain	-12→+12dB	52-76		
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
16	EQ High Gain	-12→+12dB	52-76		

WHITE ROOM ,TUNNEL, BASEMENT

No. *	Parameter	Range	Value	→ App-30**	Control
1	Reverb Time	0.3-30.0s	0-69	table#4	
2	Diffusion	0-10	0-10		
3	Initial Delay	0-63	0-63	table#5	
4	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
5	LPF Cutoff	1.0k-Thru	34-60	table#3	
6	Width	0.5-10.2m	0-37	table#8	
7	Height	0.5-20.2m	0-73	table#8	
8	Depth	0.5-30.2m	0-104	table#8	
9	Wall Vary	0-30	0-30		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Rev Delay	0-63	0-63	table#5	
12	Density	0-3	0-3		
13	Er/ Rev Balance	E63> R- E=R ~ E<R63	1-127		
14					
15	Feedback Level	-63→+63	1-127		
16					

CROSS DELAY

No. *	Parameter	Range	Value	→ App-30**	Control
1	L->R Delay	0.1-355.0ms	1-3550		
2	R->L Delay	0.1-355.0ms	1-3550		
3	Feedback Level	-63→+63	1-127		
4	Input Select	L,R,L&R	0-2		
5	High Damp	0.1-1.0	1-10		
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
14	EQ Low Gain	-12→+12dB	52-76		
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
16	EQ High Gain	-12→+12dB	52-76		

DELAY L,C,R

No. *	Parameter	Range	Value	→ App-30**	Control
1	Lch Delay	0.1-715.0ms	1-7150		
2	Rch Delay	0.1-715.0ms	1-7150		
3	Cch Delay	0.1-715.0ms	1-7150		
4	Feedback Delay	0.1-715.0ms	1-7150		
5	Feedback Level	-63→+63	1-127		
6	Cch Level	0-127	0-127		
7	High Damp	0.1-1.0	1-10		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
14	EQ Low Gain	-12→+12dB	52-76		
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
16	EQ High Gain	-12→+12dB	52-76		

EARLY REF1,2

No. *	Parameter	Range	Value	→ App-30**	Control
1	Type	S-H, L-H, Rdm, Rvs, Ptt, Spr	0-5		
2	Room Size	0.1-7.0	0-44	table#6	
3	Diffusion	0-10	0-10		
4	Initial Delay	0-63	0-63	table#5	
5	Feedback Level	-63→+63	1-127		
6	HPF Cutoff	Thru-8.0kHz	0-52		
7	LPF Cutoff	1.0k-Thru	34-60		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Liveness	0-10	0-10		
12	Density	0-3	0-3		
13	High Damp	0.1-1.0	1-10		
14					
15					
16					

DELAY L,R

No. *	Parameter	Range	Value	→ App-30**	Control
1	Lch Delay	0.1-715.0ms	1-7150		
2	Rch Delay	0.1-715.0ms	1-7150		
3	Feedback Delay 1	0.1-715.0ms	1-7150		
4	Feedback Delay 2	0.1-715.0ms	1-7150		
5	Feedback Level	-63→+63	1-127		
6	High Damp	0.1-1.0	1-10		
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
14	EQ Low Gain	-12→+12dB	52-76		
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
16	EQ High Gain	-12→+12dB	52-76		

GATE REVERB, REVERSE GATE

No. *	Parameter	Range	Value	→ App-30**	Control
1	Type	TypeA, TypeB	0-1		
2	Room Size	0.1-7.0	0-44	table#6	
3	Diffusion	0-10	0-10		
4	Initial Delay	0-63	0-63	table#5	
5	Feedback Level	-63→+63	1-127		
6	HPF Cutoff	Thru-8.0kHz	0-52		
7	LPF Cutoff	1.0k-Thru	34-60		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Liveness	0-10	0-10		
12	Density	0-3	0-3		
13	High Damp	0.1-1.0	1-10		
14					
15					
16					

- : Can be controlled by AC1 (Assignable Controller 1)
- No. * : These numbers correspond to the Parameter Suffix numbers in Table 1 - 4 (page App-12)
- App-30** : Refer to the Effect Data Value Assign Table on page App-30.

Effect Parameter List

KARAOKE1,2,3

No. *	Parameter	Range	Value	→ App-30**	Control
1	Delay Time	0-127	0-127	table#7	
2	Feedback Level	-63+63	1-127		
3	HPF Cutoff	Thru-8.0kHz	0-52		
4	LPF Cutoff	1.0k-Thru	34-60		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15					
16					

ROTARY SPEAKER

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	●
2	LFO Depth	0-127	0-127		
3					
4					
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11					
12					
13					
14					
15					
16					

CHORUS1,2,3,4, CELESTE1,2,3,4

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	
2	LFO PM Depth	0-127	0-127		
3	Feedback Level	-63+63	1-127		
4	Delay Offset	0-127	0-127	table#2	
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15	Input Mode	mono/stereo	0-1		
16					

TREMOLO

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	●
2	AM Depth	0-127	0-127		
3	PM Depth	0-127	0-127		
4					
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10					
11					
12					
13					
14	LFO Phase Difference	-180+180deg	4-124	resolution=3deg.	
15	Input Mode	mono/stereo	0-1		
16					

FLANGER1,2,3

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	
2	LFO Depth	0-127	0-127		
3	Feedback Level	-63+63	1-127		
4	Delay Offset	0-63	0-63	table#2	
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14	LFO Phase Difference	-180+180deg	4-124	resolution=3deg.	
15					
16					

AUTO PAN

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	●
2	L/R Depth	0-127	0-127		
3	F/R Depth	0-127	0-127		
4	PAN Direction	L<->R,L->R,L<-R,Lturn,Rturn,L/R	0-5		
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10					
11					
12					
13					
14					
15					
16					

SYMPHONIC

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	
2	LFO Depth	0-127	0-127		
3	Delay Offset	0-127	0-127	table#2	
4					
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15					
16					

PHASER1,2

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	
2	LFO Depth	0-127	0-127		
3	Phase Shift Offset	0-127	0-127		
4	Feedback Level	-63+63	1-127		
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Stage	6-10(phaser1) / 3-5(phaser2)	3-10		
12	Diffusion	Mono/Stereo	0-1		
13	LFO Phase Difference	-180+180deg.	4-124	Phaser2 only	
14					
15					
16					

- : Can be controlled by AC1 (Assignable Controller 1)
- No. * : These numbers correspond to the Parameter Suffix numbers in Table 1 - 4 (page App-12)
- App-30** : Refer to the Effect Data Value Assign Table on page App-30.

Effect Parameter List

DISTORTION, OVERDRIVE

No. *	Parameter	Range	Value	→ App-30**	Control
1	Drive	0-127	0-127		●
2	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
3	EQ Low Gain	-12-+12dB	52-76		
4	LPF Cutoff	1.0k-Thru	34-60	table#3	
5	Output Level	0-127	0-127		
6					
7	EQ Mid Frequency	500Hz-10.0kHz	28-54	table#3	
8	EQ Mid Gain	-12-+12dB	52-76		
9	EQ Mid Width	1.0-12.0	10-120		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11	Edge(Clip Curve)	0-127	0-127	mild-sharp	
12					
13					
14					
15					
16					

AUTO WAH

No. *	Parameter	Range	Value	→ App-30**	Control
1	LFO Frequency	0.00-39.7Hz	0-127	table#1	
2	LFO Depth	0-127	0-127		
3	Cutoff Frequency Offset	0-127	0-127		●
4	Resonance	1.0-12.0	10-120		
5					
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ Low Gain	-12-+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12-+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11					
12					
13					
14					
15					
16					

GUITAR AMP SIMULATOR

No. *	Parameter	Range	Value	→ App-30**	Control
1	Drive	0-127	0-127		●
2	AMP Type	Off,Stack,Combo,Tube	0-3		
3	LPF Cutoff	1.0k-Thru	34-60	table#3	
4	Output Level	0-127	0-127		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11	Edge(Clip Curve)	0-127	0-127	mild-sharp	
12					
13					
14					
15					
16					

3-BAND EQ

No. *	Parameter	Range	Value	→ App-30**	Control
1	EQ Low Gain	-12-+12dB	52-76		
2	EQ Mid Frequency	500Hz-10.0kHz	28-54	table#3	
3	EQ Mid Gain	-12-+12dB	52-76		
4	EQ Mid Width	1.0-12.0	10-120		
5	EQ High Gain	-12-+12dB	52-76		
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
7	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
8					
9					
10					
11					
12					
13					
14					
15					
16					

2-BAND EQ

No. *	Parameter	Range	Value	→ App-30**	Control
1	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3	
2	EQ Low Gain	-12-+12dB	52-76		
3	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
4	EQ High Gain	-12-+12dB	52-76		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

- : Can be controlled by AC1 (Assignable Controller 1)
- No. * : These numbers correspond to the Parameter Suffix numbers in Table 1 - 4 (page App-12)
- App-30** : Refer to the Effect Data Value Assign Table on page App-30.

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