YAMAHA

Yamaha Virtual Acoustic Plug-in Board

Yamaha Virtual Acoustic Plug-in Board
Carte Plug-in de Synthèse Acoustique Virtuelle

PLG100-VL

Owner's Manual
Bedienungsanleitung
Mode d'emploi

Precautions

- Do not expose the daughter board to direct sunlight, excessive humidity, high temperatures, excessive dust or strong vibrations.
- Before handling the daughter board, be sure to touch a metal surface to discharge any static electricity which may be in your body.
- When holding the daughter board, do not touch the inside area of the circuit board or apply excessive pressure to the board, and be sure to protect the board from contact with water or other liquids.
- Before installing the daughter board onto a sound card, unplug the power connector of your computer.
- Before connecting the computer to other devices, turn off the power switches of all devices.
- Yamaha is not responsible for loss of data through computer malfunctions or operator actions.
- The daughter board contains no user-serviceable parts, so never touch the inside area of the circuit board or tamper with the electronic circuitry in any way. Doing so may result in electrical shock or damage to the daughter board.

YAMAHA CANNOT BE HELD RESPONSIBLE FOR DAMAGE CAUSED BY IMPROPER CARE AND USE OF THE DAUGHTER BOARD.

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* The screens as illustrated in this owner's manual are for instructional purposes only, and may appear somewhat different from the ones of your instrument.

FCC INFORMATION (U.S.A.)

1. **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.
2. **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.
3. **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 users 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 co-axial 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.

CANADA

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

• This applies only to products distributed by Yamaha Canada Music Ltd.
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Introduction

Virtual Acoustic Plug-in Board PLG100-VL will expand your tone generator/ sound card such as MU100 and SW1000XG by adding 256 VL voices created by the unique Virtual Acoustic Synthesis (including 137 VL-XG, XG compatible, voices). Using the included software, VL Visual Editor, you can edit VL voices and create your own voices from scratch.
Please read through this manual to take full advantage of the PLG100-VL before use and keep the manual in a safe place for future reference.

ENGLISH

Contents

About XG Plug-in System

With Yamaha XG Plug-in System you can expand your tone generation system by simply mounting an optional board onto the "mother" tone generator/sound card. For example, you will be able to use extra voices from a different sound synthesis such as Virtual Acoustic Synthesis, apply completely new dimensional facet of effects to your music and/or add the latest technology to your music.

About Sondius XG

Products bearing the SONDIUS-XG logo are licensed under patents of Stanford University and Yamaha as listed on the internet web site, <http://www.sondius-xg.com>.

About VL-XG

The VL Extension for XG ("VL Extension for XG" is abbreviated to VL-XG) included in the PLG100-VL significantly enhances and expands the musical capabilities of the XG format with the superior sound and expressive potential of Yamaha Virtual Acoustic Synthesis. The PLG100-VL provides superior wind and string instrument voices while the XG tone generator/sound card supplies drums, percussion, keyboard, and other voices.

Main Features

- Allows you to play back the songs which are programmed with the VL-XG voice data (p.10).
- Lets you edit the VL parameters on the tone generator (a model with LCD screen) (p.15).
- Allows you to simulate an acoustic musical instrument and create a "virtual" musical instrument by using the "VL Visual Editor," a plug-in software for the "XGworks," even if you don't have further musical knowledge (p.10).
- Allows you to play the PLG100-VL by WX5 (via BT7) connected to the tone generator via MIDI (p.27).
- Lets you easily install the PLG100-VL onto the tone generator/sound card.

VL Voice Edit

Editing VL-XG Voices

If you want to edit the existing MIDI files or create a MIDI song using various VL-XG voices from the PLG100-VL, you need to use a sequencing software which is capable of editing the system exclusive messages and transmit bank select/program change messages and/or parameter changes to the PLG100-VL. See MIDI Data Format (p.34) for more information on the system exclusive messages.

However, using the XG Editor Window of the included music sequencing software, "XGworks" or "XGworks lite" (a Windows application, provided in the included CD-ROM) lets you visually and easily enter the VL program change data and edit its data instead of inputting rather complicated system exclusive messages.

Creating Your Own VL Voices

Even if you have no experience in voice creation, the "VL Visual Editor" (also provided in the included CD-ROM) lets you easily create VL voices. The "VL Visual Editor" is one of the plug-in software for the "XGworks" (P.10).

NOTE • ***To use the "XGworks" and "VL Visual Editor" you need to connect the "mother" tone generator/sound card to your PC, and properly set the "Driver" and "Input/Output devices." For the details refer to the owner's manual of the "XGworks."***

■ Installation

For the installation of the PLG100-VL see the manual of respective “mother” tone generator/sound card.

■ Included Items

- PLG100-VL Board
- CD-ROM
- Owner’s Manual

■ Specifications

Tone Generator	S/VA (Self-oscillating Virtual Acoustic Synthesis: VLR Algorithm)
Polyphony	1 note monophonic (latest note priority)
Sound Module Mode	VL-XG
Interface	XG Plug-in Connector (15-pin Digital Connector)
Number of Voices	256 Preset voices (including 137 VL-XG voices) 6 Custom voices 64 Internal voices
Dimensions	138.5mm(W) 89mm(D) 8.5mm(H)
Weight	56g

About the Demonstration Data Provided in the CD-ROM

The demonstration data, songs and performances, provided in the included CD-ROM will give you an idea of some of the PLG100-VL’s capability. Try them all using the “XGworks.”

* Performance data: send them as the bulk data to the XG tone generator using the “XGworks.”

● Songs

File Name	Song Name	Composer
COOLJIVA.MID	Cool JiVA	Katsunori Ujiie
OXYGEN.MID	Oxygen	Andy Mowat Daniel Powell (YAHAMA R&D London)
NOBODY.MID	Nobody Knows	Akio Suzuki
SILHOUET.MID	Silhouettes	Tom Scott (GRP Recording Artist) Nate Tschetter Charles Feilding (YAMAHA Sound Design Office)
VAMBIENT.MID	VAmbient	Katsunori Ujiie
DOGROOVA.MID	Do GrooVA	Katsunori Ujiie
CLOUDS.MID	Clouds	Akio Suzuki

● Performances

VLPFM1.MID
VLPFM2.MID
VLPFM3.MID
VLPFM4.MID

Virtual Acoustic Synthesis

Unlike previous tone generation systems which use oscillators, function generators, preset waveforms or samples to produce sound, Yamaha Virtual Acoustic ("VA") Synthesis applies sophisticated computer-based "physical modeling" technology to musical sound synthesis. In the same way that computer "models" are used to simulate weather systems or the flight characteristics of aircraft in the design stage, the PLG100-VL simulates the very complex vibrations, resonances, reflections and other acoustic phenomena that occur in a real wind or string instrument.

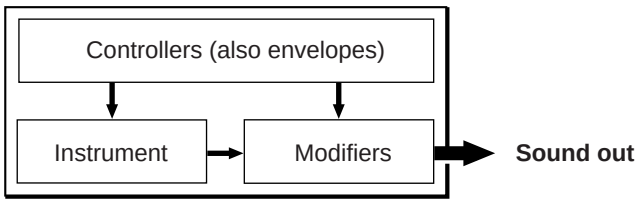
VA Advantages

The PLG100-VL offers many advantages in terms of musical performance. Not just in terms of sound, but also in terms of the "behavior" that makes acoustic instruments so … well, musical! Yamaha Virtual Acoustic Synthesis is simply the most musical tone generation system ever created.

- The PLG100-VL sounds better, has more depth, and is more realistic in the musical sense than any other tone generation system.
- Simply playing a note in the same way does not always produce precisely the same sound. The instrument is responsive and "alive".
- Note-to-note transitions have the same continuity exhibited by acoustic instruments. What goes on in between the notes is just as important musically as the notes themselves.
- It has extraordinary expressive capability. Rather than simply controlling parameters like volume or pitch, you can control characteristics such as breath and reed pressure with appropriate complex effects on the timbre of the sound.

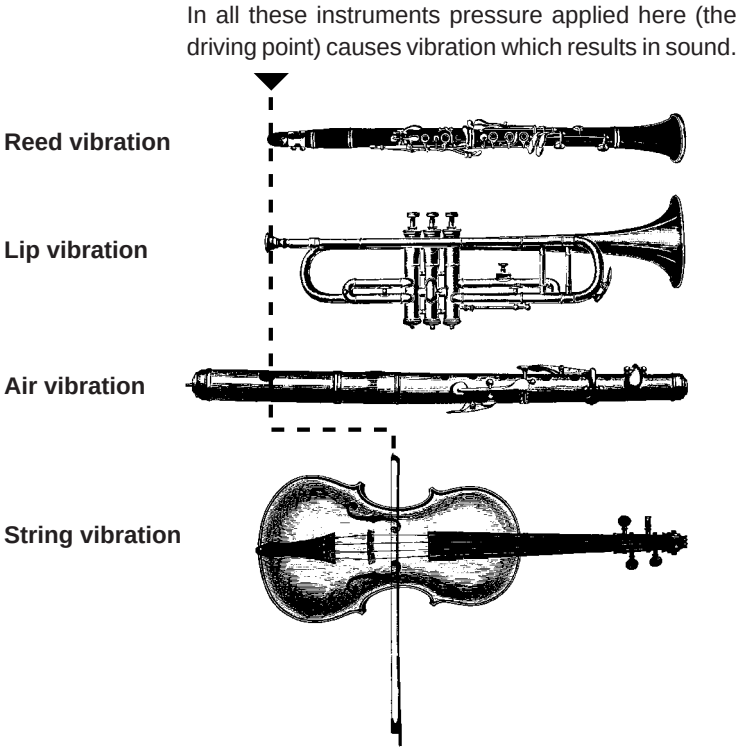
VL Tone Generator Model

The overall VL tone generation model or "algorithm" consists of three main blocks: the instrument, controllers, and modifiers. In schematic form these blocks are arranged as follows:



The Instrument

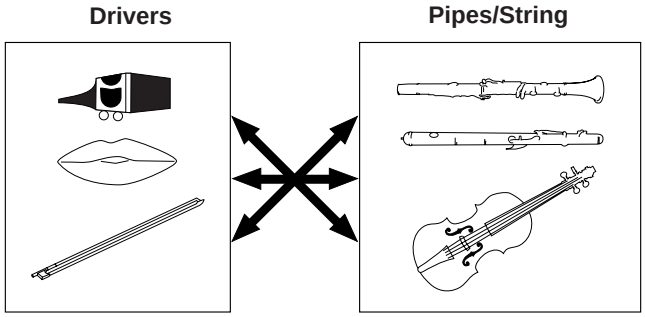
The key block in this algorithm is the instrument, since it is here that the fundamental tone or "timbre" of the sound is defined. The instrument model consists primarily of a driver — the reed/mouthpiece, lip/mouthpiece, or bow/string system — and a resonant system corresponding to the tube and air column or string.



NOTE

- ***The sound thus produced is amplified and sustained by the body of the instrument.***
- ***The pitch of the sound is determined by the length of the air column or string, and the timbre is a complex product of the driving source (reed, lip, air, string), the shape of the resonant cavity, the materials from which the instrument is made, etc.***

One of the remarkable features of the Virtual Acoustic Synthesis system is that just about any driver can be used with any type of pipe or string.



The Controllers

The input to an acoustic wind instrument comes from the player's lungs, trachea, oral cavity, and lips. In a string instrument it comes from the player's arm movement, transmitted to the string via a bow. These elements actually form an important part of the sound generating system and, in the PLG100-VL, are included in the controllers block. The player also influences the sound of the instrument by playing the keys, tone holes, or frets, and this aspect of control constitutes another part of the controllers block. These and other control parameters provided by the PLG100-VL are listed in the illustration below.

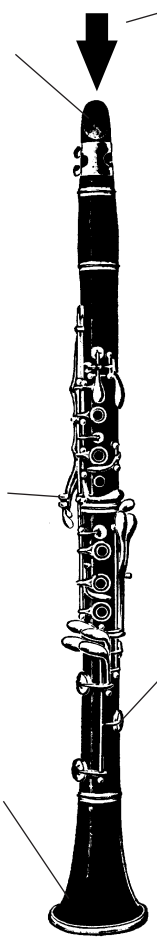
In essence, the controller parameters determine how the instrument "plays". All of these parameters can be assigned to any external controller that can be used with the PLG100-VL: breath controller, foot controller, modulation wheel, etc. The pressure parameter, for example, will normally be assigned to a breath controller so the player can control the dynamics of the instrument by varying the breath pressure applied to the controller — a natural, instinctive way to play wind-instrument voices. At the same time the growl and throat parameters might also be assigned to the breath controller in order to achieve life-like response and effects.

Embouchure
The tightness of the lips against the reed or against each other, or the force of the bow against the string.

Tonguing
Simulates the half-tonguing technique used by saxophone players by changing the "slit" of the reed.

Pitch
Changes the length of the air column or string, and thereby the pitch of the sound.

Damping & Absorption
Simulate the effects of air friction in the pipe or on the string, and of high-frequency losses at the end of the pipe or string.



Throat
Controls the characteristics of the "player's" throat or bowing arm.

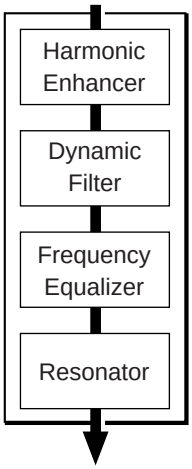
Pressure
The amount of breath pressure applied to the reed or mouthpiece, or bow velocity applied to the string.

Growl
A periodic pressure (bow velocity) modulation which produces the "growl" effect often heard in wind instruments.

Scream
Drives the entire system into chaotic oscillation, creating effects that can only be achieved with physical modelling technology.

The Modifiers

The modifiers block consists of 4 sections as shown in the diagram. Although these may appear to be simple effects, they are actually intimately related to the PLG100-VL's sound-producing model and have a significant effect on the sound.



● Harmonic Enhancer

The Harmonic Enhancer determines the harmonic structure of the sound to the extent that it can produce radical timbral variations within an instrument "family" (e.g. saxes). Adjusting the Harmonic Enhancer may not produce audible effects since many of the PLG100-VL voices' harmonics are created without the Harmonic Enhancer.

● Dynamic Filter

This section is similar to the dynamic filters found in many conventional synthesizers, with high-pass, bandpass, band elimination, and low-pass modes. Some filter parameters are available via the PLG100-VL controls, but the filter type cannot be changed.

NOTE

- ***The degree how much the filter is applied can be changed using the key scaling.***
- ***The incline of the filters is -12dB/oct.***
- ***This effect may vary depending on the selected voice.***

● Frequency Equalizer

The Equalizer boosts or decreases the output level around the designated frequency. The PLG100-VL lets you access the equalizer function using "Low Gain (Bass)" and "High Gain (Treble)" parameters.

● Resonator

The Resonator uses simulated "resonator" pipes or strings and delays to produce a "woody" resonance effect — although it has little or no effect on some voices. The resonator parameters are not accessible but preset for some of the preset voices.

Creating Voices

You can create VL voices using the VL Visual Editor, which is one of the plug-in applications for the “XGworks” and provided in the included CD-ROM.

For the detailed information about the VL Visual Editor see the on-line manual of the VL Visual Editor.

The VL voices created by the VL Visual Editor can be loaded to the Custom Voice Bank (p.11) of the PLG100-VL and played back. However, the loaded data will be lost once you turn off the “mother” tone generator/sound card. You need to load the data again if you want to use the voices. You can save the VL voice data in a file as a part of the “XGworks” song data or in an external MIDI data storage device such as MDF3 as a part of bulk data (voice file).

About XGworks Plug-in System

The software with this logo attached implies that it is one of the plug-in applications for the sophisticated music sequencing software “XGworks” and “XGworks lite.” The XGworks Plug-in System expands and enhances the power of the “XGworks” and “XGworks lite.”

Voice Organization

The VL voices have each program number and are organized into 12 banks. For the voice list see page 30.

- **Banks 112 through 119: VL-XG Banks**
  These banks are used when the PLG100-VL functions as the VL-XG tone generator.
  The voices from the PRESET 1 and PRESET 2 banks are assigned to MIDI banks and program change numbers conforming to the Yamaha XG format.

  IMPORTANT • ***Since the PLG100-VL does not have a full set of XG-compatible voices, some voice numbers will be skipped (e.g. 22, 23, 25, 27, etc.). If the truncated number is designated, the XG voice having the same program number in the bank 1 will sound, instead.***

- **Bank 000: PRESET 1 (Pr1)**
  The PRESET 1 bank contains 128 preset voices which have been created primarily to be played via a keyboard.

• **Bank 001: PRESET 2 (Pr2)**

The PRESET 2 bank contains 128 preset voices which have been created to provide maximum expressive capability when played with a breath controller or WX-series Wind MIDI Controller.

• **Bank 002: CUSTOM (Cst)**

The CUSTOM bank has 6 memory locations (program numbers 001 - 006) in which you can load the voices created by the Yamaha VL Visual Editor (p. 10).
The loaded voices cannot be backed up. When the "mother" tone generator/sound card is turned off, the voices are reset to their defaults, the sound-effect type voices from the PRESET banks.

• **Bank 003: INTERNAL (Int)**

The INTERNAL voices of the VL70-m can be received and loaded (bulk data). The loaded voices cannot be backed up. When the "mother" tone generator/sound card is turned off, the voices are reset to their defaults, the voices from the PRESET banks, set up to be played via a WX-series Wind MIDI Controller.

IMPORTANT
- ***The edited voices cannot be stored in the INTERNAL voice bank.***
- ***(When using MU-series tone generator) Saving a performance containing a VL voice as a part records the program number of the VL voice and the VL parameter settings edited on the "mother" tone generator.***
- ***The VL-XG voices edited with XG Editor Window of the "XGworks" can be saved as a part of the song data.***

NOTE
- ***Note that the "program numbers" here are 001–128 and the "MIDI program change numbers" are 000–127. When selecting voices (programs) using an external MIDI device, subtract a value of "1" from the "program numbers" to match the "MIDI program change numbers."***

■ Selecting Banks .....

Use the MIDI bank MSB (control number 00) and LSB (control number 32) numbers listed below to select VL banks from an external MIDI device.

BANK	MSB	LSB
BANK 112	97 or 81	112
BANK 113	97 or 81	113
BANK 114	97 or 81	114
BANK 115	97 or 81	115
BANK 116	97 or 81	116
BANK 117	97 or 81	117
BANK 118	97 or 81	118
BANK 119	97 or 81	119
PRESET 1	33	0
PRESET 2	33	1
CUSTOM	33	2
INTERNAL	33	3

Selecting Voices

The VL voices can be selected as you do with the XG voices. However, you have to select XG Mode or Performance Mode from the “mother” tone generator/sound card Sound Module Mode, first. You also have to designate the Part, to which you want to assign the VL voice, in the Utility sub-mode (PLUGIN).

IMPORTANT

- ***The sound cards like the SW1000XG do not include “Performance Mode.” Please check the owner’s manual of the “mother” tone generator/sound card whether it include the Performance Mode, or not.***
- ***The steps how to select a VL voice, set up the utilities and edit the VL part parameters shown below are explained using the MU100. Therefore, the illustrations may be somewhat different from the LCDs of your instrument.***

IMPORTANT

When you use a sound card or a tone generator with no panel buttons...

To select a VL voice, to set up the utilities and to edit the VL part parameters, you need to use a sequencing software and transmit the MIDI messages such as XG System On, Bank Select MSB/LSB, program change and parameter change to the “mother” sound card/tone generator, instead of following the steps below.

Using the included “XGworks,” properly installed in your PC (which is connected to the sound card/tone generator) allows you to access the VL-XG voices through the Voice List dialog of the “XGworks.”

■ Selecting VL Voice

1. Select XG or PERFORM from the “mother” tone generator Sound Module Mode.
When you select XG, Multi Play Mode will be engaged.
When you select PERFORM, Performance Play Mode will be engaged.

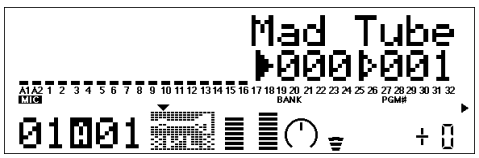
NOTE

- ***The VL voices can be selected only when “normal” is selected in the Part Mode.***

The VL voices can be played as a “part” in the XG Mode and as a “layer” in the Performance Mode.

2. Press **SELECT** button to place the cursor at the Bank Number.

3. Press **VALUE** button to select the Bank you want to use.
Depending on the Bank selected, 112–119 (VL-XG), 000 (Preset 1), 001 (Preset 2), 002 (Custom) or 003 (Internal) appears at the Bank Number location on the LCD.

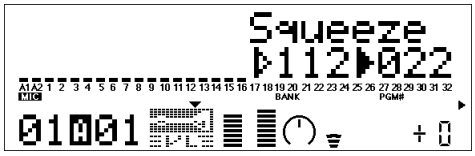


When a VL voice is selected VL voice icon will be displayed on the LCD.

NOTE • *You may unintentionally select a bank number of the "mother" tone generator. Be sure to confirm that the VL voice icon is displayed on the LCD.*

4. Press **SELECT** button to place the cursor at the Program Number.

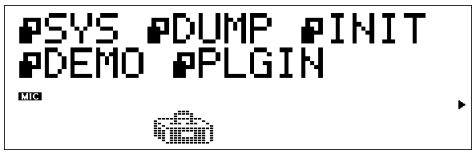
5. Press **VALUE** button to select the Program Number (voice) you want to use.



NOTE • *If an invalid Program Change Number is selected while one of the VL-XG Banks (112–119) is chosen, VL voice icon will be replaced with one of the XG voice icons.*

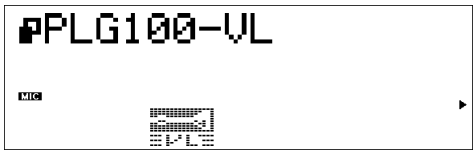
■ Designating the Part for the VL Voice

1. Press **UTIL** button to enter the Utility Mode.



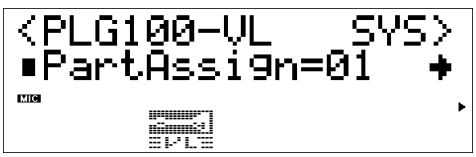
2. Press **SELECT** button to place the cursor at PLUGIN.

3. Press **ENTER**.
The following display appears.



(If necessary) Press **SELECT** button to place the cursor at PLG100-VL.

4. Press **ENTER**.
The System Parameter Edit display exclusive to the PLG100-VL appears.



(If necessary) Press **SELECT** button to place the cursor at Part Assign.

5. Press **VALUE** button to select the Part you want to use.
In the XG Mode: 01–16, off
In the Performance Mode: 01–04, off

NOTE • ***The VL voices cannot be assigned to several parts at the same time since the PLG100-VL is monophonic.***

When you use a sound card or a tone generator with no panel buttons...

To select a part for the VL voice you need to use a sequencing software and transmit the following system exclusive message (part assign parameter) to the “mother” sound card/tone generator:

F0 43 1n 4C 70 nn ss pp F7 (Hexadecimal)

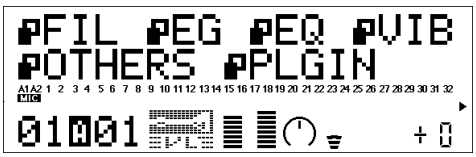
n : Device Number
nn : Plug-in Board Type (PLG100-VL is “00.”)
ss : Serial Number (which identifies the PLG boards when two same boards are installed)
00 : for first PLG100-VL
01 : for second PLG100-VL
pp : Part Number (to which the PLG100-VL is assigned)
00 : Part 1
:
:
0F : Part 16
7F : off

Editing VL Voice Part Parameters

The editings done to the parameters below affect all the voices. In other words the voices cannot be individually edited. The parameter settings are effective even when you select a different voice.

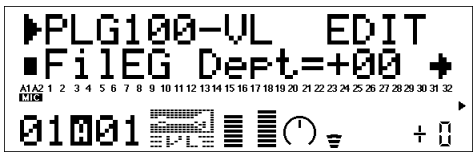
IMPORTANT • ***The edited voices cannot be stored in the INTERNAL voice bank. Instead, the VL-XG voices edited using XG Editor Window of the "XGworks" can be saved as a part of the song data.***

1. Enter the Multi Part Edit Mode.
The sub-mode menu appears on the LCD.



2. Press **SELECT** button to place the cursor to PLUGIN.

3. Press **ENTER**.
The Part Parameter Edit display exclusive to the PLG100-VL appears.



4. Press **SELECT** button to select the parameter you want to edit.

5. Use **VALUE** button to set the value of the selected parameter as required.

6. Press the **EXIT** button to quit editing.

NOTE • ***The part parameters available with the "mother" tone generator can also be applied to the VL voices except for the following parameters: HPF Cutoff Frequency, EQ Low/High Frequency, Element Reserve and Velocity Limit Low/High.***

■ VL Part Parameter .....

The parameters below can be divided into the following two types: ones for selecting the controller (Control Number) by which the parameter will be controlled and the others for setting the depth of the parameter. Even though you have designated the controller, you cannot get audible changes if you set the parameter to be controlled to 0 or around 0. For the relationship between the control numbers and controllers see page 23.

IMPORTANT

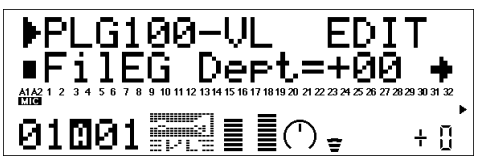
When you use a sound card or a tone generator with no panel buttons...

To edit the VL part parameters you need to use a sequencing software and transmit the system exclusive messages shown on the MIDI Data List (p. 36), to the "mother" sound card/tone generator. Using the included "XGworks," properly installed in your PC (which is connected to the sound card/tone generator) allows you to access almost all the VL part parameters (except for Filter EG Depth) for VL-XG voices through the "XG Editor window."

1. Filter EG Depth

FilEG Dept (Filter Envelope Generator Depth) ..... Settings: -64 … +63

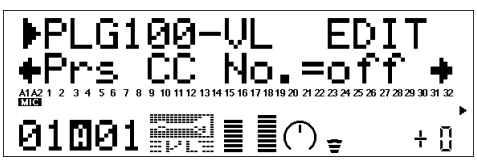
The "FilEG Dept" parameter determines to what degree the amplitude/filter envelope generator affects the filter's cutoff frequency. Higher values allow the envelope generator to vary the filter cutoff frequency over a wider range.



2. Pressure

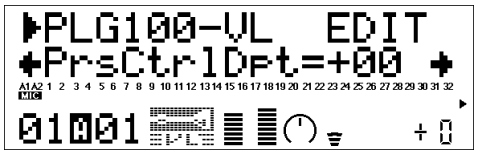
Prs CC No. (Pressure Control Change Number) ..... Settings: off … 95, AT, VEL, PB

"Pressure" corresponds to the amount of breath pressure applied to a reed or mouthpiece, or the speed of the bow applied to a string. Pressure variations affect both volume and timbre. The "Prs CC No." parameter specifies the controller to be used for pressure control. When set to "off" maximum pressure is applied at all times.



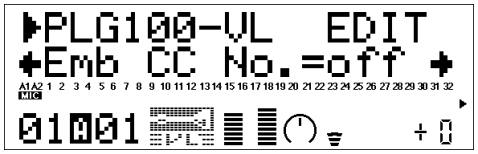
- ***Please note that pressure affects not only volume, but timbre and pitch as well. Accurate keyboard/controller pitch is produced only at maximum pressure.***

PrsCtrlDpt (Pressure Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to pressure. The higher the value the greater the variation. Positive values cause an increase in pressure in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause a decrease in pressure in response to higher controller values.



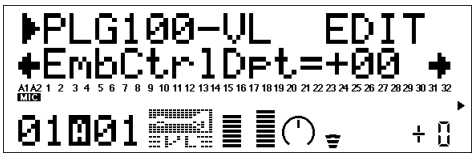
3. Embouchure

Emb CC No. (Embouchure Control Change Number) ... Settings: off … 95, AT, VEL, PB
"Embouchure" corresponds to the tightness of the lips against the reed or against each other. In a string instrument voice embouchure corresponds to how strongly the bow is pressed against the string. Affects both pitch and timbre. The "Emb CC No." parameter specifies the controller to be used for embouchure control. When set to "off" medium embouchure is applied at all times.



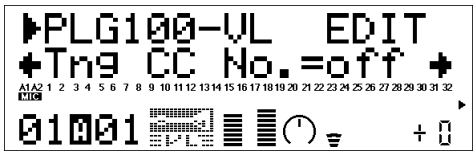
- ***Please note that with many voices accurate keyboard/controller pitch is produced only at medium embouchure.***

EmbCtrlDpt (Embouchure Control Depth)..... Setting: -64 … +63
Sets the amount of variation produced by the controller assigned to embouchure. The higher the value the greater the variation. Positive values cause an increase in embouchure in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause an decrease in embouchure in response to higher controller values.



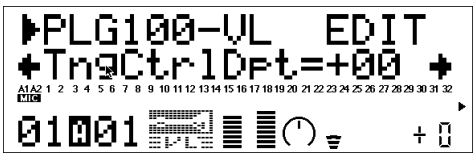
4. Tonguing

Tng CC No. (Tonguing Control Change Number) .. Settings: off … 95, AT, VEL, PB
"Tonguing" simulates the half-tonguing technique used by saxophone players by changing the "slit" of the reed. The slit is the space between the tip of the reed and the mouthpiece. The "Tng CC No." parameter specifies the controller to be used for tonguing control. When set to "off" no tonguing is applied.



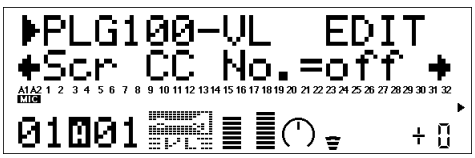
- ***Please note that accurate keyboard pitch is produced only when maximum tonguing is applied or the tonguing controller is turned off.***

TngCtrlDpt (Tonguing Control Depth)..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to tonguing. The higher the value the greater the variation. Positive values cause an decrease in tonguing in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause an increase in tonguing in response to higher controller values.

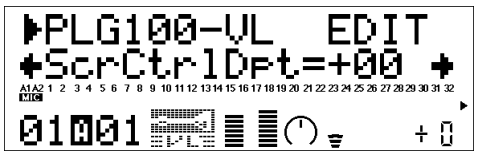


5. Scream

Scr CC No. (Scream Control Change Number) ..... Settings: off … 95, AT, VEL, PB
"Scream" drives the entire system into chaotic oscillation, creating effects that can only be achieved with physical modeling technology. The "Scr CC No." parameter specifies the controller to be used for scream control. When set to "off" no scream variation can be produced via a controller, but a continuous scream value is determined by the "ScrCtrlDpt" parameter, below (negative values increase the scream level).

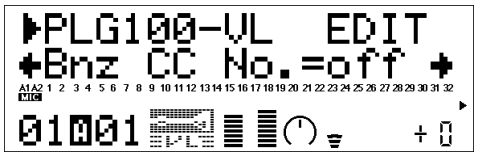


ScrCtrlDpt (Scream Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to scream. The higher the value the greater the variation. Positive values cause an increase in scream effect in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause a decrease in scream effect in response to higher controller values.

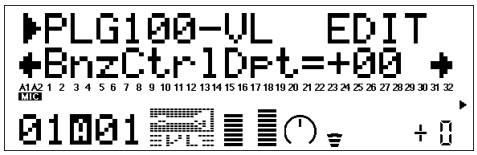


6. Breath Noise

Bnz CC No. (Breath Noise Control Change Number) .... Settings: off … 95, AT, VEL, PB
"Breath Noise" can be used to add the required amount of breath noise to a voice. The "Bnz CC No." parameter specifies the controller to be used for breath noise control. When set to "off" no breath noise variation can be produced via a controller, but a continuous breath noise value is determined by the "BnzCtrlDpt" parameter, below (negative values increase the breath noise level).

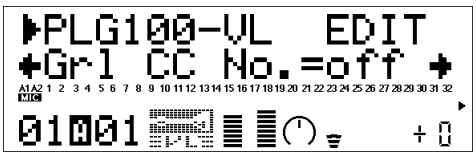


BnzCtrlDpt (Breath Noise Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to breath noise. The higher the value the greater the variation. Positive values cause an increase in breath noise in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause a decrease in breath noise in response to higher controller values.

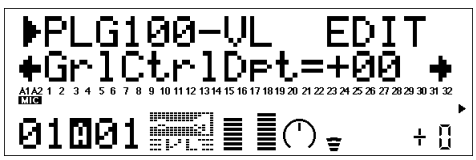


7. Growl

Grl CC No. (Growl Control Change Number) .. Settings: off … 95, AT, VEL, PB
"Growl" produces a periodic pressure modulation which produces the "growl" effect often heard in wind instruments. The "Grl CC No." parameter specifies the controller to be used for growl control. When set to "off" no growl variation can be produced via a controller, but a continuous growl value is determined by the "GrlCtrlDpt" parameter, below (negative values increase the growl level).

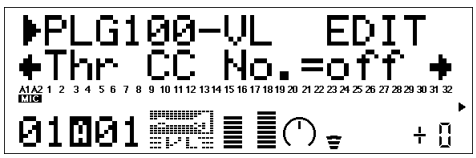


GrlCtrlDpt (Growl Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to growl. The higher the value the greater the variation. Positive values cause an increase in growl effect in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause a decrease in growl effect in response to higher controller values.



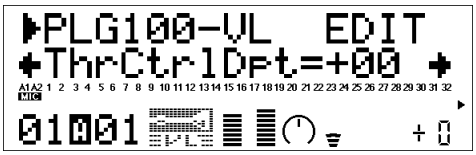
8. Throat Formant

Thr CC No. (Throat Formant Control Change Number) .. Settings: off … 95, AT, VEL, PB
"Throat Formant" controls the characteristics of the simulated player's lungs, trachea, and oral cavity. Can add a realistic "roughness" to the sound. The "Thr CC No." parameter specifies the controller to be used for throat formant control. When set to "off" no throat formant variation can be produced via a controller, but a continuous throat formant value is determined by the "ThrCtrlDpt" parameter, below (negative values increase the throat formant level).



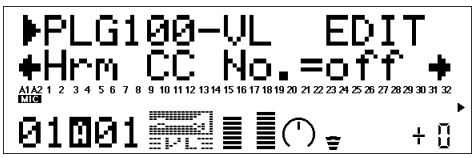
- ***Throat Formant only applies to some reed-type voices.***

ThrCtrlDpt (Throat Formant Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to throat formant. The higher the value the greater the variation. Positive values cause an increase in throat formant effect in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause a decrease in throat formant effect in response to higher controller values.



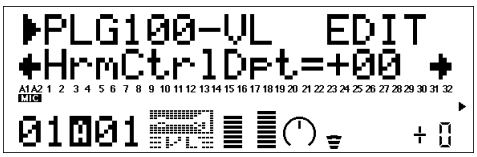
9. Harmonic Enhancer

Hrm CC No. (Harmonic Enhancer Control Change Number) .. Settings: off … 95, AT, VEL, PB
The Harmonic Enhancer can vary the harmonic structure of the sound over a wide range. The "Hrm CC No." parameter specifies the controller to be used for harmonic enhancer depth (wet/dry balance) control. When set to "off" no harmonic enhancer depth variation can be applied via a controller.



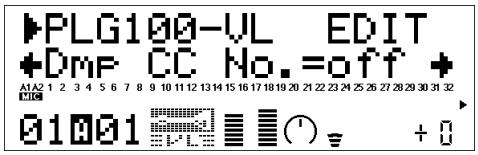
- ***Since most VL voices have sufficient natural harmonic content, the Harmonic Enhancer is actually only used on a few voices. Therefore changing the controller destination with many voices will produce either no change in the sound or a simple change in amplitude.***

HrmCtrlDpt (Harmonic Enhancer Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to the harmonic enhancer. The higher the value the greater the variation. Positive values cause an increase in harmonic enhancer depth in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause a decrease in harmonic enhancer depth in response to higher controller values.



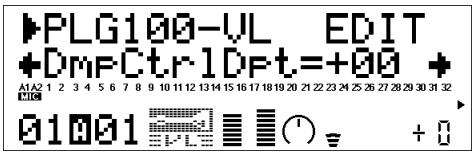
10. Damping

Dmp CC No. (Damping Control Change Number) .... Settings: off … 95, AT, VEL, PB
"Damping" simulates the effect of damping due to losses within the body of a wind instrument or in a string due to air friction. Affects both pitch and timbre. The "Dmp CC No." parameter specifies the controller to be used for damping control. When set to "off" no damping variation can be applied via a controller.



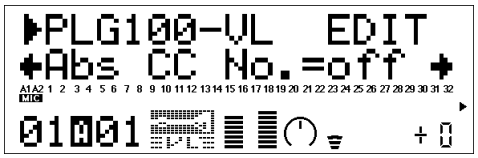
- ***Please note that accurate keyboard pitch is produced only when damping is maximum.***

DmpCtrlDpt (Damping Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to damping. The higher the value the greater the variation. Positive values cause a decrease in damping in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause an increase in damping in response to higher controller values.



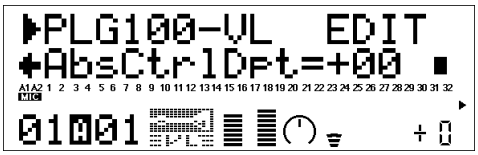
11. Absorption

Abs CC No. (Absorption Control Change Number) ..... Settings: off … 95, AT, VEL, PB
"Absorption" simulates the effect of high-frequency loss at the end of the air column or string. The "Abs CC No." parameter specifies the controller to be used for absorption control. When set to "off" no absorption variation can be applied via a controller.



- ***Please note that accurate keyboard pitch is produced only at when absorption is maximum.***

AbsCtrlDpt (Absorption Control Depth) ..... Settings: -64 … +63
Sets the amount of variation produced by the controller assigned to absorption. The higher the value the greater the variation. Positive values cause a decrease in absorption in response to higher controller values (e.g. increased breath pressure or higher modulation wheel position), while minus values cause an increase in absorption in response to higher controller values.



■ MIDI Control Number Assignments .....

Control No.	Controller
off(00)	off (used by Bank Select MSB)
01	Modulation Wheel
02	Breath Controller
03	Unassigned
04	Foot Controller
05	Portamento Time
06	Data Entry MSB
07	Volume Control
08…09	Unassigned
10	Panpot
11	Expression
12…31	Unassigned
off(32)	off (used by Bank Select LSB)
33…37	Unassigned
38	Data Entry LSB
39…63	Unassigned
64	Hold1

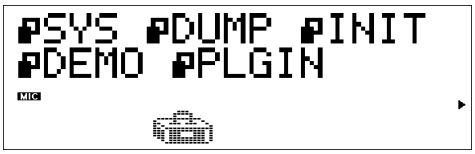
Control No.	Controller
65	Portamento Switch
66	Unassigned
67	Soft Pedal
68…70	Unassigned
71	Harmonic Content
72	Release Time
73	Attack Time
74	Brightness
75…90	Unassigned
91	Effect Send Level 1 (Reverb Effect)
92	Unassigned
93	Effect Send Level 3 (Chorus Effect)
94	Effect Send Level 4 (Variation Effect)
95	Unassigned
AT(96)	After Touch
VEL(97)	Velocity
PB(98)	Pitch Bend

* “Unassigned” numbers are for your own settings.

VL System Parameters

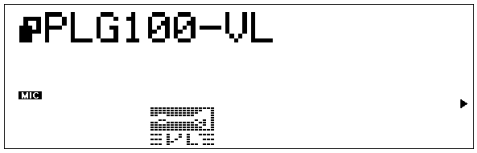
Five System related parameters for PLG100-VL will be added to the “mother” tone generator.

1. Press **UTIL** button to enter the Utility Mode.
   The sub-mode menu appears on the LCD.



2. Press **SELECT** button to place the cursor to PLUGIN.

3. Press **ENTER**.
   The following display appears.



   (If necessary) Press **SELECT** button to place the cursor to PLG100-VL.

4. Press **ENTER**.
   The System Parameter Edit display exclusive to the PLG100-VL appears.

5. Press **SELECT** button to select the parameter you want to edit.

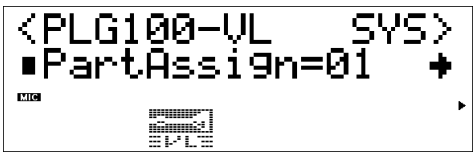
6. Press **VALUE** button to change its setting.

7. Press the **EXIT** button to quit editing.

■ System Parameters.....

1. Part Assign ..... Settings: In the XG Mode: 01…16, off;
In the Performance Mode: 01…04 , off

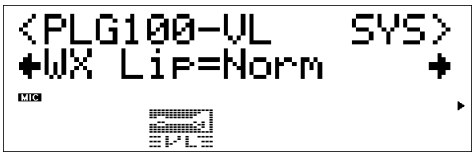
Designates the Part to which the VL voice is assigned.



- ***The VL voices cannot be assinged to several parts at one time since the PLG100-VL is monophonic.***

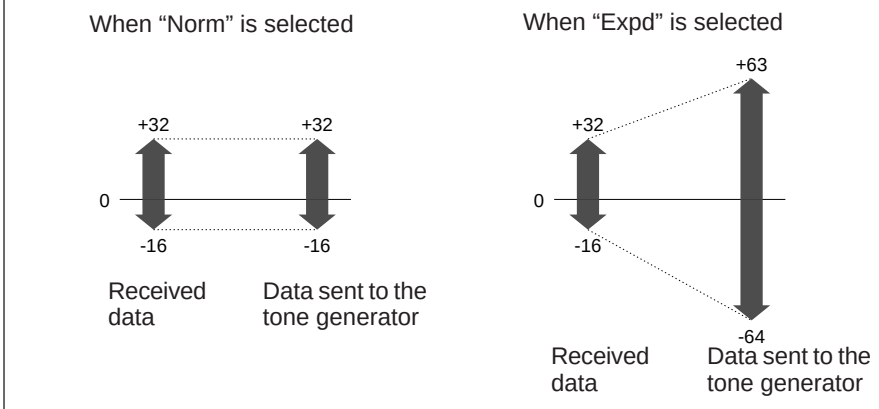
2. WX Lip Mode ..... Settings: Norm (Normal), Expd (Expand)

WX-series Wind MIDI Controllers produce pitch bend data ranging from "-16" to "+32" in response to lip (reed) pressure. The "WX Lip" parameter determines whether these values are used as is ("Norm"), or expanded to a full "-64" through "+63" range ("Expd"). The pitch bend data transmitted from the device other than WX-series can be received.



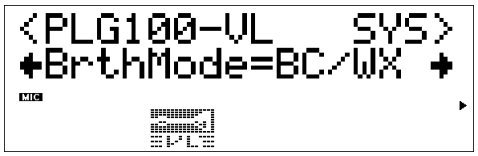
- ***The "Expd" setting is recommended when using a WX controller in the "tight lip" mode. The "Norm" setting is recommended when using the WX controller "loose lip" mode.***
- ***The settings made here is effective only for the PLG100-VL.***

Pitch Bend Range When Using a WX Controller in the "tight lip" Mode



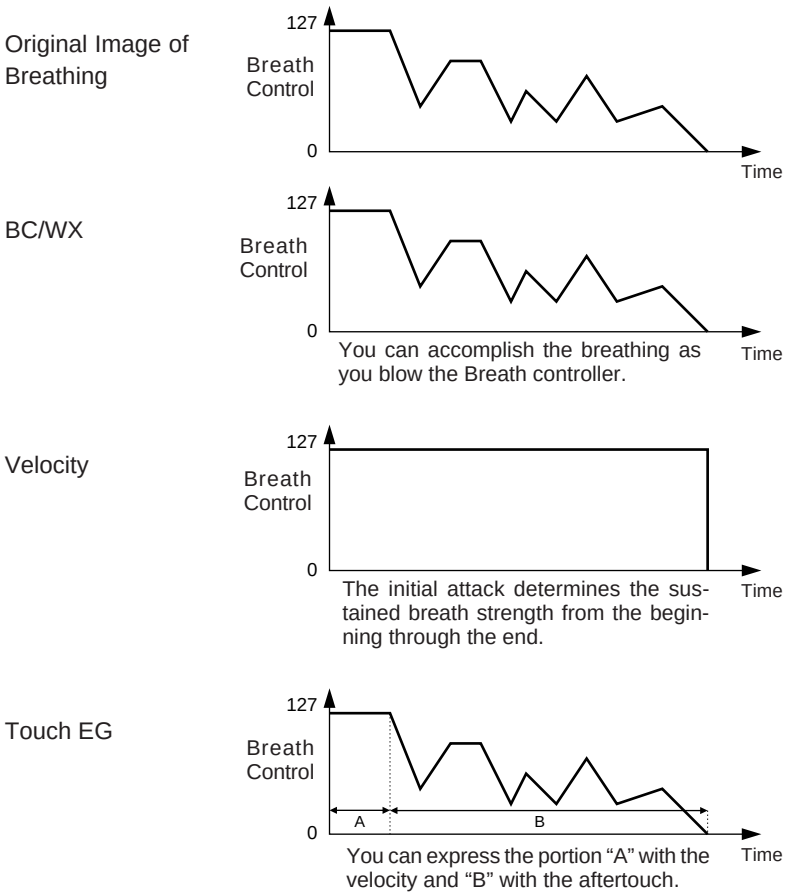
3. Breath Mode ..... Settings: BC/WX, Velocity, Touch EG

Sets the control source to be used for "breath" control. This parameter should be set to "BC/WX" when a breath controller or Yamaha WX-series Wind MIDI Controller is being used. When set to "Velocity," breath variation is controlled by keyboard initial touch response. When "Touch EG" is selected breath variation is controlled by a combination of initial keyboard touch response and aftertouch pressure. Initial key velocity sets the initial breath level, then aftertouch pressure determines the shape of the subsequent breath envelope.

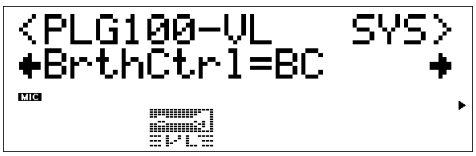


Expressivity of Each Controller

The expressivity will differ depending on the selected controller.

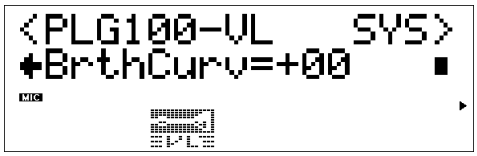


4. Breath Control ..... Settings: BC (Breath Control), Exp (Expression)
Specifies the MIDI control change number to be used for breath control when breath control is applied from a breath controller or WX-series Wind MIDI Controller. When "BC" is selected control change number "02" (breath control) is used for breath control. When "Exp" is selected control change number "11" (expression) is used for breath control.



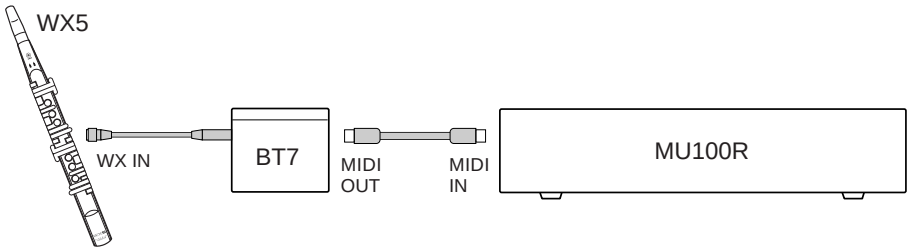
- ***This parameter is also available for the breath controller data transmitted from a device other than the WX-series.***
- ***This parameter is effective only when "BC/WX" is selected from Breath Mode.***

5. Breath Curve ..... Setting: -16 … +16
Determines the relationship between breath control data received from a breath controller, WX-series Wind MIDI Controller (via the BT7 and MIDI IN connector), and the actual amount of breath variation applied. Minus settings result in a large breath variation with a relatively small amount of breath pressure applied to the controller, while plus settings required a greater range of input breath control values to produce the same degree of breath variation.



- ***This parameter is also available for the breath controller data transmitted from the device other than WX-series.***
- ***The settings made here is effective only when "BC/WX" is selected from Breath Mode.***

• Connection Between WX-series and "mother" tone generator/sound card



NOTE

- ***When you use a sound card built into PC...***
  To control PLG100-VL using WX-series Wind Controller, select "SW1000 #1 Synthesizer" for the MIDI Thru setting in the System Setup dialog of the "XGworks."

Appendix : Q & A

1 Some voices sound as if they are in the original octave even when shifted down an octave.

This is because Virtual Acoustic synthesis accurately simulates the acoustic behaviour of a pipe or string. Simply stated, the harmonic balance of the voice when played in the normal octave is retained even when the voice is shifted down an octave. The change in timbre can be greater or less, depending on the selected voice.

2 Portamento doesn't produce smooth effect on some voices.

Trumpets and some other brass instruments tend to exhibit this phenomenon more than others. In a VA tone generator portamento is produced by lengthening or shortening the instrument's pipe. A trumpet is designed to emphasize the “modes” of the pipe(s) to produce notes over a wide range using only three valves. When portamento is applied to a trumpet voice, the pitch tends to jump from mode to mode, thus producing the observed glissando effect. The same effect occurs with some flute voices. Saxophone modes are not nearly as strong as trumpet modes, but some sax voices do have two definite modes which, when spanned by a portamento slide, can produce irregularities.

3 The filter, EG, and other parameters have more effect on some voices than others.

Most voices use the low-pass filter type, but some use the bandpass or high-pass type. Some voices use very little filter processing at all. Changing the filter settings may not produce a particularly noticeable effect. Also the Breath Noise, Throat Formant, Growl, Harmonic Enhancer and Pitch EG parameter settings cannot have a significant effect on some voices.

4 Some bowed string instrument voices tend to “squeak.”

As anyone who has played (or tried to play) a real violin knows, these instruments naturally tend to squeak if not properly controlled. The same occurs with VA synthesis. As with a real bowed string instrument, bow speed and pressure must be properly controlled to produce the desired sound. Bow speed is usually controlled either via breath control or an expression pedal. Bow pressure is controlled via control number 13: “64” is medium pressure, lower values produced reduced bow pressure, and higher values produce increased bow pressure.

5 Pitch bends produced by a pitch bend wheel are not always accurate.

Natural acoustic musical instruments have no “pitch parameter.” Pitch is determined by the properties of the instrument’s resonant body as well as the condition of the instrument’s driver. The same applies to Virtual Acoustic Synthesis: in the pitch bend is simulated by manipulating the appropriate pipe/string length and driver characteristics. As a result, the pitch bend range may not always be “mathematically” accurate.

With reed instruments such as saxophone or clarinet, highly realistic pitch bends are produced by controlling both pitch and embouchure at the same time. Since the embouchure component of the pitch bend behaves with characteristics acoustic unpredictability, precise pitch bends are not always produced.

6 Some voices don’t respond as expected to EG edits.

The effect of editing envelope generator parameters may not always be as expected — particularly with plucked string instrument voices such as guitar or bass. This is because the VL actually simulates the plucking, free oscillation, and muting of the strings rather than simply using an EG to approximate these events. If the sound of a string voice decays naturally, for example, setting a long release time will have little or no effect on the actual sound of the voice. Since the attack and decay portions of the voice also have natural timbre variations, these can be unnaturally altered by inappropriate EG settings — which is OK if you’re trying to produce an unnatural effect. Trial and experimentation and the only sure ways to determine how the EG parameters are going to affect a particular voice.

7 The PLG100-VL is a monophonic tone generator. Why is the “poly” mode initialy selected when the VL-XG sound module mode is engaged?

This is to provide compatibility between the current XG format and future polyphonic VL-series tone generators. It also provides a certain degree of compatibility to allow playback of VL-XG song data on existing tone generators which do not feature the VL-XG extension. Specifically, to switch the PLG100-VL to the mono mode a “mono mode” command (control change no.126, value 0-16) is embedded in the song data which, when received by a 32-note or 64-note polyphonic XG tone generator, switches the appropriate parts to the mono mode. The same will apply to future polyphonic VL-series tone generators, so no changes will be required. The PLG100-VL therefore has a “poly” which is automatically selected when a MIDI “XG on” system exclusive message is received.

■ VL-XG Voice List Bank Select MSB=81, 97

Instrument Group	Pch#	Bank 112	Bank 113	Bank 114	Bank 115	Bank 116	Bank 117	Bank 118	Bank 119
Organ	22	Squeeze							
	23	MouthKey	AmpdHarp	CromHarp					
Guitar	25	Spanish							
	27	JazzGtr!	Carlos	Destiny					
	28	L7 Pluck	WetPluck						
Bass	33	Upright							
	34	Fnground	Birdland						
	35	FlageoBs	DampBass						
	36	Fretles!	Frtles!2						
	37	New Slap	ThumBass						
	39	AcidBas!	SqrBass!						
	40	PulsClav	MogueBas						
Strings	41	NuViolin	Viol Inn	C Violin	BrtVioln	MuteViol			
	42	BrtViola	ViolOutt						
	43	Cello!	Eleanor	Nu Cello					
	44	Contrair	DoublBow						
Brass	57	Trumpet!	Trumpt!2	FluglHr!	Cornet				
	58	Trmbone!	Melwbone						
	59	Tuba!							
	60	MuteTp!	MuteTp!2						
	61	Horn!	Horn!2						
Reed	65	SoprSax!	CvopSax	SoprPipe	LiteSopr				
	66	AltoSax!	SweetAlt	LiteAlto	HarpAlto	HarpAlt2	GlassAlt		
	67	TenrSax!	MildTenr	Jazz Sax	TenorSub	BellMike	GlasTenr	FnkyTenr	OldTenor
	68	BariSax!	VoxoSaxo						
	69	Oboe!	Oboe!2	DblReedy	TripleRd				
	70	EngHorn!	Loboe						
	71	Bassoon!	Flurinet						
	72	Clarint!	LitePipe	HyperCla					
Pipe	73	Piccolo!	Piccol!2	BowPicol					
	74	C Flute	C Flute2	JazFlute	OakFlute				
	75	Recordr!	Claricrd	SoftPipe					
	76	Pan Pipe	PanPicol						
	77	YamaBotl	Bamboo	Andean	BtlFlute	BtlFlut2			
	78	Shakuha!							
	79	BowedSaw							
	80	Ocarina!							
Synth Lead	81	50 / 50	ChalPuls	PluckLd					
	82	Brassyn	AcoSynLd	VintgLd					
	83	Maysbe?	Air Sax	Baroquen	LipClari				
	84	Grunge	Ossyncro	Talk Box					
	85	MizuHorn	Floboe						
	86	SoftReed	BrethBow						
	88	Chamlion	Old Mini						
Ethnic	105	Sitar!	India						
	110	Chanter	ThaiReed						
	111	JetLpBow							
Percussive	115	YamSteel							

* When the Bank Select MSB is set to “81,” the voices of the Bank 112 will be used and played for the above empty spaces of each bank.
When the Bank Select MSB is set to “97,” the voices of the Bank 1 of the XG tone generator will be used and played for the above empty spaces of each bank.

Bank Select MSB=81

Instrument	Pch#	Bank 112	Bank 113	Bank 114	Bank 115	Bank 116	Bank 117	Bank 118	Bank 119
Synth Effects	97	Mad Tube							
	98	StoneHng							
	99	Mu							
	100	Moby							
	101	Igneous							
	102	SquealAT							
Sound Effects	121	Jurassic							
	122	Formula							
	123	Waterphn							
	124	Devil							
	125	SpcHorse							
	126	DinoPerc							
	127	SpaceZoo							
	128	Jason							

* When the Bank Select MSB is set to “81,” the voices of the Bank 112 will be used and played for the above empty spaces of each bank.
When the Bank Select MSB is set to “97,” the voices in the above list is not available.

■ Preset 1 Voice List

Voice No.	Voice Name	Recommended Range
001	Mad Tube	C1 … B4
002	VintgLd	B-1 … C6
003	SpaceZoo	***
004	GuitHero	G0 … C5
005	StoneHng	F0 … G6
006	Whizzer	G#0 … F#5
007	SimpleBa	C0 … C6
008	ClavBass	C0 … E3
009	SuperBas	C0 … F#3
010	New Slap	C0 … D5
011	RockPigs	C0 … E4
012	Igneous	C0 … C5
013	50 / 50	C0 … F5
014	Cybastrg	C-1 … C6
015	Wynth	A-1 … G5
016	BuzzSaw	E-1 … C6
017	ZubZub	B-1 … C6
018	Blue	G0 … D3
019	OsciLead	C0 … G5
020	SqrLead	D#0 … C6
021	Bigger	C-1 … C6
022	AnaSquid	G-1 … C6
023	SharpSyn	G0 … C6
024	AnaWave	C0 … E4
025	AnaWurl	C0 … C6
026	Babalog	C0 … C6
027	FngerBass	B-1 … C4
028	Upright	B-1 … C4

Voice No.	Voice Name	Recommended Range
029	Fnground	A-1 … C4
030	Birdland	A-1 … C4
031	FlageoBs	G0 … C4
032	DampBass	G-1 … C3
033	Fretles!	E-1 … C4
034	Frtles!2	B-1 … C#4
035	ThumBass	C0 … C3
036	RockBass	G-1 … C4
037	SmooBass	B-1 … A#3
038	WarmBass	B-1 … C4
039	YamaBass	A-1 … C4
040	Box Bass	C0 … C4
041	BassCab	B-1 … G#4
042	FruitBas	C0 … C4
043	AcidBas!	B-1 … C5
044	SqrBass!	B-1 … G4
045	PulsClav	A-1 … G5
046	MogueBas	B-1 … C#7
047	BoppaBas	B-1 … C4
048	BuzzrBas	D0 … E4
049	MuteHrBs	C0 … C5
050	TekBass	B-1 … C4
051	TranzBas	C0 … F#4
052	Chamlion	C0 … B4
053	ParaSyn	A-1 … C4
054	SteamBas	C0 … C#7
055	BooBass	B-1 … C5
056	WhelkBas	E-1 … C#5

Voice No.	Voice Name	Recommended Range
057	AtackSyn	G0 … B4
058	Q.Klav	A-1 … C#4
059	Sitar!	G0 … E4
060	India	F#0 … C6
061	YamSteel	A2 … C6
062	StungSt	F#0 … B5
063	Mu	***
064	Waterphn	***
065	DinoPerc	***
066	Formula	***
067	Jurassic	***
068	Devil	***
069	SpcHorse	***
070	Jason	***
071	Suedhead	F-1 … C6
072	Spanish	F-1 … E4
073	JazzGtr!	B-1 … A4
074	JazzyGtr	A-1 … C6
075	L7 Pluck	B-1 … E4
076	WetPluck	B-1 … E4
077	Comp Gtr	B-1 … A4
078	FunkyGtr	B-1 … D5
079	Thin Gtr	B-1 … G5
080	Carlos	B-1 … G4
081	Destiny	C0 … C5
082	Gonzo	B-1 … G5
083	Grunge	C0 … B6
084	Ossyncro	B-1 … G5
085	Talk Box	F#0 … E7
086	SyncLed	B-1 … E6
087	Old Mini	A-1 … A5
088	Fat Mini	G-1 … A5
089	Parlopho	B-1 … C5
090	SimpleSy	B-1 … E5
091	Choronic	C0 … G5
092	SlitMinu	F0 … C6

Voice No.	Voice Name	Recommended Range
093	SynHarmo	B-1 … G6
094	Flaggoot	C0 … D4
095	SynSkex	C0 … A#5
096	ResoSqr	A-1 … D5
097	WurliLd	B-1 … C6
098	FlatLead	G#1 … G5
099	PhilTur	B-1 … C6
100	ChalPuls	B-1 … C6
101	Pluck Ld	B-1 … C6
102	Brassyn	B-1 … C6
103	AcoSynLd	A-1 … C6
104	Moby	G-1 … F5
105	Digitrn	C0 … C6
106	LyricOff	B-1 … C6
107	Rezzawi	B-1 … G5
108	Macro	B-1 … C6
109	Claribo	G#-1 … G5
110	Binaphon	C0 … C6
111	MokoPipe	C0 … C6
112	AliBaba	B-1 … C6
113	Persinet	B-1 … G5
114	PicoPipe	Ab0 … C6
115	Gertrude	C0 … C6
116	Xynth	G-1 … C6
117	Duality	G-1 … C6
118	AltKwek	G#1 … C7
119	Softblow	C0 … C6
120	AlbaPipe	C0 … C6
121	Electrum	C0 … C6
122	Edgeopho	B-1 … F5
123	BassCla!	C0 … C6
124	WX Clari	C1 … C6
125	WX Oboe	C0 … B5
126	WX J Gtr	C0 … A4
127	Shakuha!	C1 … C6
128	LipClari	F-1 … C6

■ Preset 2 Voice List

Voice No.	Voice Name	Recommended Range
001	Vento	C0 … C6
002	Floboe	C0 … C6
003	Sintax	F0 … G5
004	Eastern	E0 … C6
005	Trumpet!	C0 … C6
006	SoprSax!	C0 … C6
007	LiteAlto	E0 … C6
008	Trmbone!	C0 … C6
009	BtlFlute	C0 … C6
010	Air Sax	G0 … C6
011	TenrSax!	C0 … C6
012	Coca	C1 … C6

Voice No.	Voice Name	Recommended Range
013	JetLpBow	A-1 … C6
014	Viol Inn	C0 … C6
015	MuteCone	G0 … C6
016	BrethBow	B-1 … C6
017	Trumpt!2	C0 … C6
018	FluglHr!	C0 … C6
019	Cornet	C0 … C6
020	JzTrump	F#2 … C6
021	JzTrump2	G#1 … C6
022	Flumpet	D0 … C6
023	WXTrumpt	C0 … C6
024	MuteTp!	E0 … C6

Voice No.	Voice Name	Recommended Range
025	MuteTp!2	C0 … C6
026	Melwbone	C0 … C6
027	NerzoBr	E0 … C6
028	Horn!	B-1 … C6
029	Horn!2	C0 … C6
030	NuHorne	B-1 … C6
031	WX Horn	B-1 … C6
032	Tuba!	C0 … C6
033	NuViolin	C0 … C6
034	C Violin	C0 … C6
035	BrtVioln	C0 … C6
036	MuteViol	C0 … C6
037	BrtViola	C0 … C6
038	ViolOutt	C0 … C6
039	Cello!	C0 … C5
040	Eleanor	C0 … C5
041	Nu Cello	B-1 … C6
042	Contrair	A-1 … C5
043	DoublBow	A-1 … C5
044	Piccolo!	C0 … C7
045	Piccol!2	C0 … C7
046	BowPicol	C0 … G6
047	C Flute	C0 … C6
048	C Flute2	C0 … C6
049	JazFlute	B-1 … C6
050	OakFlute	E0 … C6
051	BtlFlut2	C0 … C6
052	RzdeFlt	E0 … C6
053	Flutuen	G1 … C6
054	Nz Flute	C0 … C6
055	WX Shaku	C1 … C6
056	Pan Pipe	E0 … G5
057	PanPicol	C0 … G6
058	Bamboo	C0 … C6
059	Andean	C0 … C6
060	Flurinet	F0 … C6
061	SoftReed	C0 … C6
062	Flurmod	F0 … B5
063	Jhopali	G0 … C5
064	Baroquen	C0 … C6
065	SquealAT	C0 … C6
066	NuSopSax	C0 … G5
067	CvSopSax	A-1 … C6
068	SoprPipe	F0 … C6
069	LiteSopr	E0 … C6
070	AnaSoprn	F0 … C6
071	NuAltSax	C0 … C5
072	SweetAlt	F#0 … E5
073	AltoSax!	E0 … C6
074	HarpAlto	G0 … C6
075	HarpAlt2	G0 … C6
076	GlassAlt	C0 … C6

Voice No.	Voice Name	Recommended Range
077	AcidSax	C0 … C6
078	WackSax	G#0 … E5
079	NuTenrSx	D0 … E5
080	MildTenr	C0 … C6
081	Jazz Sax	A#0 … E5
082	TenorSub	A#0 … A5
083	BellMike	C0 … C5
084	GlasTenr	G0 … E5
085	FnkyTenr	C0 … G5
086	OldTenor	C0 … A5
087	BrtTenor	C0 … C6
088	BariSax!	C0 … C5
089	VoxoSaxo	C0 … C5
090	Oboe!	F0 … C6
091	Oboe!2	C0 … C6
092	Noboe	C0 … G5
093	OboeWhi	G1 … G6
094	DblReedy	C0 … A5
095	TripleRd	C0 … C6
096	EngHorn!	C0 … C6
097	Loboe	C0 … C6
098	Bassoon!	C0 … C5
099	Clarint!	A0 … C6
100	LitePipe	C0 … C6
101	HyperCla	C0 … C6
102	Clarint2	F0 … C6
103	IslePipe	C1 … C5
104	Chanter	D1 … C6
105	ThaiReed	C0 … C5
106	Recordr!	C0 … A5
107	Claricrd	C0 … C5
108	SoftPipe	G0 … C5
109	BowdSaw	C0 … C5
110	Ocarina!	F0 … C7
111	Lonely	C#2 … E6
112	Ophelia	C0 … C6
113	Maysbe?	D#0 … A5
114	MizuHorn	C0 … C6
115	PicoStrg	G#0 … C5
116	Sylophon	C0 … C5
117	BowLead	C0 … C6
118	Squeeze	C0 … C6
119	MouthKey	C0 … C6
120	AmpdHarp	C0 … C6
121	CromHarp	A-1 … C6
122	WahUpHp	B-1 … C6
123	YamaBotl	A#-1 … C6
124	Blowsoo	G-1 … C5
125	Brappo	C0 … C5
126	Crumbon	E0 … G5
127	Klarina	E0 … B5
128	ReedWin	E0 … C6

1. KEY ON / KEY OFF

Status :9nH/8nH

If the Part Parameter Rcv NOTE MESSAGE = OFF, that Part will ignore Key ON and Key OFF messages.

2. PROGRAM CHANGE

Status :CnH

If the Part Parameter Rcv PROGRAM CHANGE = OFF, that Part will not receive Program Change Messages.

3. PITCH BEND

Status :EnH

If the Part Parameter Rcv PITCH BEND = OFF, that Part will not receive Pitch Bend Messages.

4. CONTROL CHANGE

Status :BnH

If the Part Parameter Rcv CONTROL CHANGE = OFF, that Part will not receive Control Change Messages.

<Bank Select MSB/LSB> 00H/20H

Cntrl#	parameter	Data Range
0	Bank Select MSB	33:Preset1/Preset2/Custom/ Internal 81: VL-XG non alternative voice. 97: VL-XG alternative voice.
32	Bank Select LSB	0 :Preset1 1 :Preset2 2 :Custom 3 :Internal 112...119: VL-XG Alternative or non alternative variation.

If the Part Parameter Rcv BANK SELECT = OFF, that Part will not receive Bank Select Messages. A new bank selection will not become effective until the next Program Change is received.

<Modulation> 01H

Cntrl#	parameter	Data Range
1	Modulation	0...127

If the Part Parameter Rcv MODULATION = OFF, that Part will not receive Modulation Messages.

<Breath Controller> 02H

Cntrl#	parameter	Data Range
2	Breath Controller	0...127

<Foot Controller> 04H

Cntrl#	parameter	Data Range
4	Foot Controller	0...127

<Portamento Time> 05H

Cntrl#	parameter	Data Range
5	Portamento Time	0...127

When the Portamento parameter = ON, values will adjust the speed of pitch change.
A setting of 0= minimum portamento time, and 127 = maximum portamento time.

<Data Entry MSB/LSB> 06H/26H

Cntrl#	parameter	Data Range
6	Data Entry MSB	0...127
38	Data Entry LSB	0...127

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

<Main Volume> 07H

Cntrl#	parameter	Data Range
7	Main Volume	0...127

If the Part Parameter Rcv MAIN VOLUME = OFF, that Part will not receive Main Volume Messages.

<Pan> 0AH

Cntrl#	parameter	Data Range
10	Panpot	0...127

If the Part Parameter Rcv PAN = OFF, that Part will not receive Pan Pot Messages. 1=Left, 127=Right; 0=Center

<Expression> 0BH

Cntrl#	parameter	Data Range
11	Expression	0...127

If the Part Parameter Rcv EXPRESSION = OFF, that Part will not receive Expression Messages.

<Control Change 13> 0DH

Cntrl#	parameter	Data Range
13	Control Change 13	0...127

<Hold1> 40H

Cntrl#	parameter	Data Range
64	Hold1	0...127 (0-63:Off, 64-127:On)

If the Part Parameter Rcv HOLD 1 = OFF, that Part will not receive Hold 1 Messages.

<Portamento> 41H

Cntrl#	parameter	Data Range
65	Portamento	0...127 (0-63:Off, 64-127:On)

If the Part Parameter Rcv PORTAMENTO = OFF, that Part will not receive Portamento Messages. If the Portamento parameter = ON, values will adjust the speed of the portamento. If the Mono mode is activated and Portamento = ON, the Single Trigger Mode will be activated. If not, the Multi-Trigger Mode will be effective.

<Soft Pedal> 43H

Cntrl#	parameter	Data Range
67	Soft Pedal	0...127 (0-63:Off, 64-127:On)

If the Part Parameter Rcv SOFT PEDAL = OFF, that Part will not receive Soft Pedal Messages. When the SOFT PEDAL is set “ON” the effect will take place from the next Key On signal. Messages will control the Filter Cutoff Frequency. Depending upon the Voice, the effect may or may not have an effect.

<Harmonic Content> 47H

Cntrl#	parameter	Data Range
71	Harmonic Content	0...127 (0:-64, 64:+0, 127:+63)

Messages which adjust the resonance set for each. Based on a standard of 64, these values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

<Release Time> 48H

Cntrl#	parameter	Data Range
72	Release Time	0...127 (0:-64, 64:+0, 127:+63)

Messages which adjust the envelope release time. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

<Attack Time> 49H

Cntrl#	parameter	Data Range
73	Attack Time	0...127 (0:-64, 64:+0, 127:+63)

Messages which adjust the envelope attack time. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

<Brightness> 4AH

Cntrl#	parameter	Data Range
74	Brightness	0...127 (0:-64, 64:+0, 127:+63) Default:40H

Messages which adjust the filter cutoff frequency. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

<Data Increment / Decrement> 60H/61H

Cntrl#	parameter	Data Range
96	Increment	0...127
97	Decrement	0...127

The data byte is ignored.
RPN messages which increase or decrease the MSB value of the parameter by 1.

<NRPN (Non-Registered Parameter Number) LSB/MSB> 62H/63H

Cntrl#	parameter	Data Range
98	NRPN LSB	0...127
99	NRPN MSB	0...127

If the Part Parameter Rcv NRPN = OFF, that Part will not receive NRPN Messages.
First send the NRPN MSB and NRPN LSB to specify the parameter which is to be controlled. Then use the Data Entry to set the value of the specified parameter.
The following NRPN numbers can be received.

NRPN MSB	NRPN LSB	Data-entry MSB	parameter	Data 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)

The Rate, Depth, and Delay Time for the Vibrato is controlled.

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	22H	mmH	Filter EG Depth	mm:00H-40H-7FH (-64-0-+63)

The Cut-off frequency, Resonance, and Envelope Depth for the Filter is controlled.

01H	30H	mmH	Bass	mm:00H-40H-7FH (-64-0-+63)
01H	31H	mmH	Treble	mm:00H-40H-7FH (-64-0-+63)

The Bass and Treble are controlled.

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	mm:00H-40H-7FH (-64-0-+63)

The Attack time, Decay time, and Release time for the Envelope are controlled. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

<RPN (Registered Parameter Number) LSB/MSB> 64H/65H

Cntrl#	parameter	Data Range
100	RPN LSB	0...127
101	RPN MSB	0...127

If the Part Parameter Rcv RPN = OFF, that Part will not receive RPN Messages.
In correspondence to the following parameters.

RPN LSB	RPN MSB	Data-entry MSB	parameter	Data Range
00H	00H	mmH	Pitch Bend Sensitivity	mm:00H-18H (0-+24) Default:02H

01H	00H	mmH	Fine Tune	mm:00H-40H-7FH (-64-0-+63) Default : 40H 00H
02H	00H	mmH	Coarse Tune	mm:28H-40H-58H (-24-0-+24) Default : 40H 00H
7FH	7FH	—	Null	—

5. CHANNEL MODE MESSAGES

<All Sounds Off> 78H

Cntrl#	parameter	Data Range
120	————	0

Terminates all sounds currently sounding. However, the status of channel messages are maintained.

<Reset All Controllers> 79H

Cntrl#	parameter	Data Range
121	————	0

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

Pitch Bend	Center
Channel Aftertouch	0
Modulation	0
Breath Control	Max
Foot Control	Max
Expression	Max
Control Change 13	Center
Hold 1	Off
Portamento	Off
Soft Pedal	Off
RPN	Null

<All Notes Off> 7BH

Cntrl#	parameter	Data Range
123	————	0

Terminates all notes currently on. However, if Hold 1 is on, notes will continue sounding for the time set previously.

<Omni Off> 7CH

Cntrl#	parameter	Data Range
124	————	0

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

<Omni On> 7DH

Cntrl#	parameter	Data Range
125	————	0

Performs the same function as when an All Notes Off message is received. It will not activate OMNI ON.

<Mono> 7EH

Cntrl#	parameter	Data Range
126	Mono	0...16

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, and sets the instrument to Mono Mode.

<Poly> 7FH

Cntrl#	parameter	Data Range
127	————	0

Performs the same function as when an All Sounds Off message is received, and sets the instrument to Poly mode.

6. CHANNEL AFTERTOUCH

Status :DnH

If the Part Parameter Rcv CHANNEL AFTER TOUCH = OFF, that Part will not receive Channel After Touch Messages.

7. SYSTEM EXCLUSIVE MESSAGES

If the Part Parameter Rcv SYSTEM EXCLUSIVE = OFF, that Part will not receive System Exclusive Messages.

<UNIVERSAL REALTIME MESSAGES>

1) MIDI Master Volume (receive only)

F0H, 7FH, xnH, 04H, 01H, llH, mmH, F7H
xn : n=Device Number, xn=7F : Broadcast
ll : Master Volume LSB
mm : Master Volume MSB

When received, the Volume MSB will be effective for the System Parameter MASTER VOLUME.

2) General MIDI System On (receive only)

F0H, 7EH, 7FH, 09H, 01H,F7H or F0H, 7EH, xnH, 09H, 01H, F7H
xn : n=Device Number

<PARAMETER CHANGE>

[VL70-m Native Format]

F0H, 43H, 1nH, 57H, ahH, amH, alH, ddH, ~, ddH, F7H
1n : n=Device Number
ah : Address High
am : Address Mid
al : Address Low
dd : Data

1)	**VL System Parameters**	**See <Table 3>**
2)	**Current Voice / Common Misc Parameters**	**See <Table 4>**
3)	**VL Part Parameters**	**See <Table 6>**
4)	**Current Voice / Element Parameters**	**See <Table 8>**

[XG Format]
F0H, 43H, 1nH, 4CH, ahH, amH, alH, ddH, ~, ddH, F7H
1n : n=Device Number
ah : Address High
am : Address Mid
al : Address Low
dd : Data

1) XG System On (receive only) See <Table 1>
2) XG System Parameters See <Table 2>
3) Multi Part Parameters See <Table 3>
When this message is sent, the preset Part Number is used.

[Other]
1) MIDI Master Tune (receive only)
F0H, 43H, 1nH, 27H, 30H, 00H, 00H, mmH, llH, ccH, F7H
1n : n=Device Number
mm : Master Tune MSB
ll : Master Tune LSB
cc : Don't care

When received, the System Parameter will reflect the Master Tune.

<BULK DUMP> (receive only)

[VL70-m Native Format]
F0H, 43H, 0nH, 57H, bmH, blH, ahH, amH, alH, ddH, ~, ddH, ccH, F7H
0n : n=Device Number
bm : Byte Count MSB
bl : Byte Count LSB
ah : Address High
am : Address Mid
al : Address Low
dd : Data
cc : Check Sum

1) VL System Parameters See <Table 3>
2) Current Voice / Common Misc Parameters See <Table 4>
3) VL Part Parameters See <Table 6>
4) Current Voice / Element Parameters See <Table 8>
6) Custom Voice Parameters See <Table 9>
7) Internal Voice Parameters See <Table 10>

[XG Format]
F0H, 43H, 0nH, 4CH, bmH, blH, ahH, amH, alH, ddH, ~, ddH, ccH, F7H
0n : n=Device Number
bm : Byte Count MSB
bl : Byte Count LSB
ah : Address High
am : Address Mid
al : Address Low
dd : Data
cc : Check Sum

1) XG System Parameters See <Table 2>
2) Multi Part Parameters See <Table 5>

For the Address and Byte Count, refer to the supplementary tables.
Here, the Byte Count is indicated by the "TOTAL SIZE" in the table.
The block's leading byte is the Bulk Dump and Dump Request's Address.
A "Block" is the lumped together unit which is bound by the "Total Size".
The Check Sum is the value that results in a value of 0 for the lower 7 bits when the Address, Byte Count, Data, plus the Check Sum itself are added.

3) Part Assign (MIDI Parameter Change) See <Table 7>
F0H 43H 1nH 4CH 70H nnH ssH ppH F7H

n: Device Number
nn: Plug-in Board Type (PLG100-VL is "00.")
ss: Serial Number (which identifies the PLG boards when two same boards are installed)
00: for first PLG100-VL
01: for second PLG100-VL
pp: Part Number (to which the PLG100-VL is assigned.)
00: Part 1
.
.
0F: Part 16
7F: off

8. REALTIME MESSAGES

<Active Sensing> (receive only)

Status :FEH

Once Active Sensing is received, if no MIDI data is received for longer than an interval of 300msec, the instrument will perform the same function as when ALL SOUND OFF and ALL NOTE OFF, RESET ALL CONTROLLER messages are received, and will return to the status in which Active Sensing is not monitored.

<Table 1> XG System On

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 00 7E	1	00	XG SYSTEM ON	0:VL-XG	
00 00 7F	1	00	ALL PARAMETERS RESET	0:ON	
TOTAL SIZE	2				

<Table 2> XG System Parameters

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		MASTER ATTENUATOR	0 - 127	00
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
TOTAL SIZE	7				

<Table 3> VL System Parameters

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		MASTER ATTENUATOR	0 - 127	00
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
07	1		NOT USED		--
08	1		NOT USED		--
09	1		NOT USED		--
0A	1		NOT USED		--
0B	1	00 - 01	BREATH CONTROL NUMBER	BC, EXPRESSION	00
0C	1	30 - 50	BREATH CONTROL CURVE	-16 - +16	40
0D	1	00 - 01	WX LIP LOCK	OFF/ON	00
0E	1	00 - 01	BREATH SET LOCK	OFF/ON	00
0F	1	00 - 01	WX LIP	NORMAL,EXPAND	00
10	1	00 - 02	BREATH MODE	BC/WX, VELOCITY, TOUCH EG	00
11	1	00 - 7F	VELOCITY DEPTH	0 - 127	30
12	1	00 - 7F	VELOCITY OFFSET	0 - 127	50
13	1	00 - 7F	TOUCH EG TIME	0 - 127	2A
14	1	00 - 7F	AT LOW DEPTH	0 - 127	1B
15	1	00 - 7F	AT LOW OFFSET	0 - 127	50
16	1	00 - 7F	AT HIGH DEPTH	0 - 127	25
17	1	00 - 7F	AT HIGH OFFSET	0 - 127	65
TOTAL SIZE	18				

* Addresses 00 00 0B through 00 00 17 are supported for parameter changes.

<Table 4> Current Voice / Common Misc Parameters

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
10 00 00	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)	
01	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)	
02	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)	
03	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)	
04	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)	
05	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)	
06	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)	

	07	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)
	08	1		NOT USED	
	09	1	00 - 7F	VOICE LEVEL	0 - 127
	0A	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST
	0B	2	0000 - 1F1F	POLY EXPAND	off...32>32
	0D	1	00 - 01	PORTAMENTO MODE	FULLTIME, FINGERED
	0E	1		NOT USED	
TOTAL SIZE	0F				

<Table 5> Multi Part Parameters

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
08	0p	00	1		NOT USED		
		01	1	00 - 7F	BANK SELECT MSB	0 - 127	00
		02	1	00 - 7F	BANK SELECT LSB	0 - 127	00
		03	1	00 - 7F	PROGRAM NUMBER	1 - 128	00
		04	1	00 - 0F, 7F	Rcv CHANNEL	ch1 - ch16, OFF	00
		05	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	01
		06	1		NOT USED		--
		07	1	00 - 05	PART MODE	0:NORMAL	00
		08	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	40
		09	2	00 - FF	DETUNE	-12.8 - +12.7[Hz],	--
						1st bit3-0→bit7-4, 2nd bit3-0→bit3-0	08 00
		0B	1	00 - 7F	VOLUME	0 - 127	64
		0C	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	40
		0D	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	40
		0E	1	00 - 7F	PAN	CENTER (0), L63...C...R63 (1...64...127)	40
		0F	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	00
		10	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	7F
		11	1	00 - 7F	DRY LEVEL	0 - 127	7F
		12	1	00 - 7F	CHORUS SEND	0 - 127	00
		13	1	00 - 7F	REVERB SEND	0 - 127	28
		14	1	00 - 7F	VARIATION SEND	0 - 127	00
		15	1	00 - 7F	VIBRATO RATE	-64 - +63	40
		16	1	00 - 7F	VIBRATO DEPTH	-64 - +63	40
		17	1	00 - 7F	VIBRATO DELAY	-64 - +63	40
		18	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	40
		19	1	00 - 7F	FILTER RESONANCE	-64 - +63	40
		1A	1	00 - 7F	EG ATTACK TIME	-64 - +63	40
		1B	1	00 - 7F	EG DECAY TIME	-64 - +63	40
		1C	1	00 - 7F	EG RELEASE TIME	-64 - +63	40
		1D	1	28 - 58	MW PITCH CONTROL	-24 - +24[semitones]	40
		1E	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450[cent]	40
		1F	1	00 - 7F	MW AMPLITUDE CONTROL	-100 - +100[%]	40
		20	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	0A
		21	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	00
		22	1		NOT USED		--
		23	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	42
		24	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450[cent]	40
		25	1	00 - 7F	BEND AMPLITUDE CONTROL	-100 - +100[%]	40
		26	1	00 - 7F	BEND LFO PMOD DEPTH	0 - 127	00
		27	1	00 - 7F	BEND LFO FMOD DEPTH	0 - 127	00
		28	1		NOT USED		
TOTAL SIZE		29					

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
08	0p	30	1	00 - 01	Rcv PITCH BEND	OFF/ON	01
		31	1	00 - 01	Rcv CH AFTER TOUCH(CAT)	OFF/ON	01
		32	1	00 - 01	Rcv PROGRAM CHANGE	OFF/ON	01
		33	1	00 - 01	Rcv CONTROL CHANGE	OFF/ON	01
		34	1		NOT USED		--
		35	1	00 - 01	Rcv NOTE MESSAGE	OFF/ON	01
		36	1	00 - 01	Rcv RPN	OFF/ON	01
		37	1	00 - 01	Rcv NRPN	OFF/ON	01

38	1	00 - 01	Rcv MODULATION	OFF/ON	01
39	1	00 - 01	Rcv MAIN VOLUME	OFF/ON	01
3A	1	00 - 01	Rcv PAN	OFF/ON	01
3B	1	00 - 01	Rcv EXPRESSION	OFF/ON	01
3C	1	00 - 01	Rcv HOLD1	OFF/ON	01
3D	1	00 - 01	Rcv PORTAMENTO	OFF/ON	01
3E	1		NOT USED		--
3F	1	00 - 01	Rcv SOFT PEDAL	OFF/ON	01
40	1	00 - 01	Rcv BANK SELECT	OFF/ON	01
41	1	00 - 7F	SCALE TUNING C	-64 - +63[cent]	40
42	1	00 - 7F	SCALE TUNING C#	-64 - +63[cent]	40
43	1	00 - 7F	SCALE TUNING D	-64 - +63[cent]	40
44	1	00 - 7F	SCALE TUNING D#	-64 - +63[cent]	40
45	1	00 - 7F	SCALE TUNING E	-64 - +63[cent]	40
46	1	00 - 7F	SCALE TUNING F	-64 - +63[cent]	40
47	1	00 - 7F	SCALE TUNING F#	-64 - +63[cent]	40
48	1	00 - 7F	SCALE TUNING G	-64 - +63[cent]	40
49	1	00 - 7F	SCALE TUNING G#	-64 - +63[cent]	40
4A	1	00 - 7F	SCALE TUNING A	-64 - +63[cent]	40
4B	1	00 - 7F	SCALE TUNING A#	-64 - +63[cent]	40
4C	1	00 - 7F	SCALE TUNING B	-64 - +63[cent]	40
4D	1	28 - 58	AT PITCH CONTROL	-24 - +24[semitones]	40
4E	1	00 - 7F	AT FILTER CONTROL	-9600 - +9450[cent]	40
4F	1	00 - 7F	AT AMPLITUDE CONTROL	-100 - +100[%]	40
50	1	00 - 7F	AT LFO PMOD DEPTH	0 - 127	00
51	1	00 - 7F	AT LFO FMOD DEPTH	0 - 127	00
52	1		NOT USED		--
53	1		NOT USED		--
54	1		NOT USED		--
55	1		NOT USED		--
56	1		NOT USED		--
57	1		NOT USED		--
58	1		NOT USED		--
59	1	00 - 5F	AC1 CONTROLLER NUMBER	off - 95	10
5A	1	28 - 58	AC1 PITCH CONTROL	-24 - +24[semitones]	40
5B	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450[cent]	40
5C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100 - +100[%]	40
5D	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	00
5E	1	00 - 7F	AC1 LFO FMOD DEPTH	0 - 127	00
5F	1		NOT USED		--
60	1		NOT USED		--
61	1		NOT USED		--
62	1		NOT USED		--
63	1		NOT USED		--
64	1		NOT USED		--
65	1		NOT USED		--
66	1		NOT USED		--
67	1	00 - 01	PORTAMENTO SWITCH	OFF/ON	00
68	1	00 - 7F	PORTAMENTO TIME	0 - 127	00
69	1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63	40
6A	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63	40
6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63	40
6C	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63	40
6D	1		NOT USED		--
6E	1		NOT USED		--

TOTAL SIZE 3F

Address (H)		Size (H)	Data (H)	Parameter	Description	Default value(H)
08	0p 70	1	28 - 58	BEND PITCH LOW CONTROL	-24 - +24[semitones]	3E
	71	1	00 - 7F	FILTER EG DEPTH	-64 - +63	40
	72	1	00 - 7F	BASS	-64 - +63	40
	73	1	00 - 7F	TREBLE	-64 - +63	40

TOTAL SIZE 04

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
09 0p 00	1	00 - 01	NOTE ASSIGN	OFF/ON	01
01	1		NOT USED		--
02	1		NOT USED		--
03	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
04	1	00 - 7F	DEPTH	-64 - +63	40
05	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
06	1	00 - 7F	DEPTH	-64 - +63	40
07	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	00
08	1	00 - 7F	DEPTH	-64 - +63	40
09	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	00
0A	1	00 - 7F	DEPTH	-64 - +63	40
0B	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
0C	1	00 - 7F	DEPTH	-64 - +63	40
0D	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	00
0E	1	00 - 7F	DEPTH	-64 - +63	40
0F	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	00
10	1	00 - 7F	DEPTH	-64 - +63	40
11	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	00
12	1	00 - 7F	DEPTH	-64 - +63	40
13	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB	00
14	1	00 - 7F	DEPTH	-64 - +63	40
15	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB	00
16	1	00 - 7F	DEPTH	-64 - +63	40
TOTAL SIZE 17					

* p = Part Number

<Table 6> VL Part Parameters

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
09 00 17	1	00 - 7F	AMP LEVEL SCALE BREAK POINT	C-2 - G8	3C
18	1	00 - 7F	DEPTH	-64 - +63	40
19	1	00 - 7F	FILTER CUTOFF SCALE BREAK POINT	C-2 - G8	3C
1A	1	00 - 7F	DEPTH	-64 - +63	40
1B	1		NOT USED		--
1C	1		NOT USED		--
TOTAL SIZE 06					

<Table 7> MIDI Parameter Change (VL Part Assign)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
70 00 ss	1	00 - 0F, 7F	Part Assign	A 1.....A 16, off	0
TOTAL SIZE 01					

* ss = Serial Number for PLG100-VL

<Table 8> Current Voice / Element Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
20 00 00	1	20 - 7F	ELEMENT NAME #1	32 - 127 (ASCII)	
00 01	1	20 - 7F	ELEMENT NAME #2	32 - 127 (ASCII)	
00 02	1	20 - 7F	ELEMENT NAME #3	32 - 127 (ASCII)	
00 03	1	20 - 7F	ELEMENT NAME #4	32 - 127 (ASCII)	
00 04	1	20 - 7F	ELEMENT NAME #5	32 - 127 (ASCII)	
00 05	1	20 - 7F	ELEMENT NAME #6	32 - 127 (ASCII)	
00 06	1	20 - 7F	ELEMENT NAME #7	32 - 127 (ASCII)	
00 07	1	20 - 7F	ELEMENT NAME #8	32 - 127 (ASCII)	
00 08	1	20 - 7F	ELEMENT NAME #9	32 - 127 (ASCII)	
00 09	1	20 - 7F	ELEMENT NAME #10	32 - 127 (ASCII)	
00 0A	1	00 - 01	EXPRESSION MODE	BC, VOLUME	
00 0B	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 0C	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 0E	1	70 - 10	CURVE	-16 - +16	
00 0F	1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 10	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 12	1	70 - 10	CURVE	-16 - +16	
00 13	1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 14	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 16	1	70 - 10	CURVE	-16 - +16	
00 17	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 18	2	01 01 - 00 7F	UPPER DEPTH	-127 - +127	
00 1A	2	01 01 - 00 7F	LOWER DEPTH	-127 - +127	
00 1C	1	00 - 01	MODE	CENTER BASE, MINIMUM BASE	
00 1D	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 1E	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 20	1	70 - 10	CURVE	-16 - +16	
00 21	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 22	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 24	1	70 - 10	CURVE	-16 - +16	
00 25	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 26	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 28	1	70 - 10	CURVE	-16 - +16	
00 29	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 2A	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 2C	1	70 - 10	CURVE	-16 - +16	
00 2D	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 2E	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 30	1	70 - 10	CURVE	-16 - +16	
00 31	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 32	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 34	1	70 - 10	CURVE	-16 - +16	
00 35	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 36	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 38	1	70 - 10	CURVE	-16 - +16	
00 39	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 3A	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 3C	1	70 - 10	CURVE	-16 - +16	
00 3D			NOT USED		
| |			NOT USED		
0A 6A			NOT USED		
TOTAL SIZE	56B				

<Table 9> Custom Voice Parameters

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
30 00 0n	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)	
	1		NOT USED		
	1	00 - 7F	VOICE LEVEL	0 - 127	
	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST	
	2	00 00 - 1F 1F	POLY EXPAND	off...32>32	
	1	00 - 01	PORTAMENTO MODE	FULLTIME, FINGERED	
	1		NOT USED		
	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	
	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	
	2	00 - FF	DETUNE	-12.8 - +12.7[Hz], 1st bit3-0→bit7-4, 2nd bit3-0→bit3-0	
	1		NOT USED		
	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	
	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	
	1	00 - 7F	PAN	RANDOM (0), L63...C...R63 (1...64...127)	
	1		NOT USED		
	1		NOT USED		
	1	00 - 7F	DRY LEVEL	0 - 127	
	1	00 - 7F	CHORUS SEND	0 - 127	
	1	00 - 7F	REVERB SEND	0 - 127	
	1	00 - 7F	VARIATION SEND	0 - 127	
	1	28 - 58	MW PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	MW AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	
	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	BEND AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	BEND LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	BEND LFO FMOD DEPTH	0 - 127	
	1	00 - 7F	SCALE TUNING C	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING C#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING D	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING D#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING E	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING F	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING F#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING G	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING G#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING A	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING A#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING B	-64 - +63[cent]	
	1	28 - 58	AT PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	AT FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	AT AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	AT LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	AT LFO FMOD DEPTH	0 - 127	
	1	00 - 5F	AC1 CONTROLLER NUMBER	off - 95	
	1	28 - 58	AC1 PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	AC1 LFO FMOD DEPTH	0 - 127	
	1	00 - 01	PORTAMENTO SWITCH	OFF/ON	
	1	00 - 7F	PORTAMENTO TIME	0 - 127	
	1	28 - 58	BEND PITCH LOW CONTROL	-24 - +24[semitones]	
	62		NOT USED		
TOTAL SIZE A3					

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
31 00 0n	1	20 - 7F	ELEMENT NAME #1	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #2	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #3	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #4	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #5	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #6	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #7	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #8	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #9	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #10	32 - 127 (ASCII)	
	1	00 - 01	EXPRESSION MODE	BC, VOLUME	
	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	UPPER DEPTH	-127 - +127	
	2	01 01 - 00 7F	LOWER DEPTH	-127 - +127	
	1	00 - 01	MODE	CENTER BASE, MINIMUM BASE	
	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	01 01 - 00 7F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	52E		NOT USED		
TOTAL SIZE	56B				

n = Voice Number(0 - 5)

<Table 10> Internal Voice Parameters

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
40 00 nn	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)	
	1	00 - 7F	VOICE LEVEL	0 - 127	

1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST
2D		NOT USED	
1	00 - 7F	AMP LEVEL SCALE BREAK POINT	C-2 - G8
1	00 - 7F	DEPTH	-64 - +63
1	00 - 7F	FILTER CUTOFF SCALE BREAK POINT	C-2 - G8
1	00 - 7F	DEPTH	-64 - +63
1	00 - 02	BANK POINTER	PRESET1, PRESET2, CUSTOM
1	00 - 7F	PROGRAM POINTER	1 - 128
33		NOT USED	
1	00 - 01	EXPRESSION MODE	BC, VOLUME
1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	UPPER DEPTH	-127 - +127
2	01 01 - 00 7F	LOWER DEPTH	-127 - +127
1	00 - 01	MODE	CENTER BASE, MINIMUM BASE
1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16

TOTAL SIZE A3

nn = Voice Number (00 - 3F)

YAMAHA [VIRTUAL ACOUSTIC PLUG-IN BOARD] Date :26-JUN-1998
Model PLG100-VL MIDI Implementation Chart Version : 1.1

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	x	1	
	Changed	x	1 - 16	
Mode	Default	x	3	
	Messages	x	3,4 (m = 1) *2	
	Altered	**********	x	
Note Number	: True voice	x **********	0 - 127 0 - 127	
Velocity	Note ON	x	o 9nH,v=1-127	
	Note OFF	x	x	
After Touch	Key's	x	x	
	Ch's	x	o *1	
Pitch Bend		x	o 0-24 semi *1	
Control Change	0,32	x	o *1	Bank Select
	1,2,4,5,13	x	o *1	
	6,38	x	o *1	Data Entry
	64,65,67	x	o *1	
	71-74	x	o *1	Sound Controller
	96-97	x	o *1	RPN Inc,Dec
	98-99	x	o *1	NRPN LSB,MSB
	100-101	x	o *1	RPN LSB,MSB

Prog Change : True #	x **********	o 0 - 127	
System Exclusive	o *3	o *3	
: Song Pos. Common : Song Sel. : Tune	x x x	x x x	
System : Clock Real Time: Commands	x x	x x	
Aux : All Sound Off : Reset All Cntrls : Local ON/OFF : All Notes OFF Mes- : Active Sense sages: Reset	x x x x x x	o(120,126,127) o(121) x o(123-125) o x	
Notes: *1 receive if switch is on. *2 m is always treated as "1" regardless of its value. *3 transmit/receive if exclusive switch is on.			

Mode 1 : OMNI ON , POLY Mode 2 : OMNI ON ,MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF,MONO x : No

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