

Yamaha Advanced DX/TX Plug-in Board Yamaha Advanced DX/TX Plug-in Board Carte plug-in DX/TX avancée Yamaha

PLG100-DX



Owner's Manual Bedienungsanleitung Mode d'emploi



Precautions

- Do not expose the plug-in board to direct sunlight, excessive humidity, high temperatures, excessive dust or strong vibrations.
- Before handling the plug-in board, be sure to touch a metal surface to discharge any static electricity which may be in your body.
- When holding the plug-in 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 plug-in board onto a tone generator/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 plug-in 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 plug-in 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

Thank you for purchasing the Yamaha XG Plug-in board PLG100-DX.

The PLG100-DX is a plug-in board that offers a six-operator FM generator equivalent to the one that made the DX7 series so famous. The PLG100-DX is compatible with the XG plug-in system, and you can install it into the MU128 or any other tone generator or sequencer that supports XG plug-ins. Once it's installed, the unique FM tone generator voices that built the reputation of the DX series will be right at your fingertips, ready to play. The PLG100-DX has 912 preset DX series voices built right in, and you can send the DX7 and DX7II voice data through MIDI.

To install your PLG100-DX correctly, and to ensure full enjoyment of its outstanding functions, be sure to read this manual very carefully. After you finish reading your owner's manual, be sure to keep it someplace safe, where you can refer to it whenever you have a question about your PLG100-DX.

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About the XG Plug-in System

With the 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 a completely new dimension to your music, and/or add the latest technology to your music.



About DX-XG

The DX Extension for XG ("DX Extension for XG" is abbreviated to DX-XG) included in the PLG100-DX significantly enhances and expands the musical capabilities of the XG format with the superior sound and expressive potential of Yamaha FM synthesis. The PLG100-DX supports the same powerful FM synthesis voices as Yamaha's legendary DX7. Plug this board into your tone generator/sound card for 912 unbelievable FM voices with up to 16-note polyphony.

Features of the PLG100-DX

• Features the same FM tone generator that has won acclaim in the DX series synthesizers.

The PLG100-DX employs an FM tone generator system, with six operators and 32 algorithms, that has been a favorite of musicians in DX series synthesizers like the DX7 and the DX7II.

Maximum 16 voice simultaneous polyphony

Ensures maximum 16 voice simultaneous polyphony equal to the DX7 and DX7II. Furthermore, by installing multiple PLG100-DX boards, the maximum polyphony can be increased to 128 voices (when eight boards are installed). By installing, for example, three PLG100-DX boards in the MU128 tone generator, maximum polyphony will be 48 voices.

• 912 preset voices

The PLG100-DX already has 912 preset voices built right in. From electric piano to bass, and reaching all the way to effect sounds, the preset voices have been selected for usability centering on the sounds that made the DX series famous.

• Voice data can be exchanged in bulk between the DX7 and the DX7II

Because the PLG100-DX is compatible with the DX series, it can be used for bulk transfer of voice parameters between the DX7 and the DX7II. The DX7 and DX7II can be used as editors for the PLG100-DX. By using the edit software for the DX7 and the DX7II, editing can be done for the PLG100-DX. Voice parameters for the DX1, DX7S, TF1 (such as the TX816) TX7 and the TX802 are also supported.

CAUTION Some voices may sound slightly different than the voices of the devices mentioned above.

• Comes equipped with a low pass filter, a high pass filter and a two-band equalizer.

A low pass filter, a high pass filter and a two-band equalizer have been installed in the PLG100-DX. These features can be used together with the voice editing parameters for the FM tone generator to create new voices. Even if you install the PLG100-DX in a platform that doesn't have these functions, the filters and EQ built into the PLG100-DX will work.

Compatible with the XG Plug-In system

Because the PLG100-DX is an XG plug-in board, it can be installed in any XG plug-in tone generator, like the MU128.

Installing the PLG100-DX

To install your PLG100-DX board, see the manual that came with the "mother" tone generator (such as the MU128 or SW1000XG) or synthesizer.

Included Items

The items below are packaged together with your new PLG100-DX. Before using your board, be sure to check that everything has been included. In the rare event that some item is missing, please contact the store where you bought your PLG100-DX as soon as possible.

- PLG100-DX Board
- PLG100-DX Owner's Manual
- CD-ROM "XGtools"

Necessary Items that Are Not Included

XG tone generator or synthesizer

To use your PLG100-DX, you will need an XG tone generator or synthesizer equipped with an XG Plug-in platform function that is compatible with the XG Plug-in system, such as the MU128 or SW1000XG.

The MU128 and SW1000XG are equipped with each of the XG Plug-in platform functions, and can be used for installing the PLG100-DX.

The software programs explained below will put the functions of the PLG100-DX right at your fingertips, helping you get the most enjoyment out of it.

XGworks(lite)

When you use Yamaha's XGworks(lite) as your sequence software, you can take advantage of the two editing software programs explained below, the "DX Simulator" and the "DX Easy Editor." These programs make it really easy to edit the voices of your PLG100-DX board.

DX Easy Editor

The DX Easy Editor lets you indirectly change the PLG100-DX voices by changing the part parameters. It's not for directly editing the voice parameters. Using this software, you can edit both the XG part parameters (XG parameters) that are shared by all the parts, and the native part parameters that are specially for the PLG100-DX (DX parameters). The changed parameters can be either inserted into the song as events, or saved as a DX parameter file.

Because the DX Easy Editor is plug-in software for XGworks(lite), you must have XGworks(lite) in order to use it.

The DX Easy Editor is included on the CD-ROM that was packaged with your PLG100-DX board.

DX Simulator

The DX Simulator is special software for editing the custom voices of the PLG100-DX. When you start up the program, an image of the DX7 front panel is displayed on your computer screen. Using your mouse to operate the buttons and sliders, you can edit voices just like using a real DX7. You can also display an edit list where you can edit voices while checking all the parameters in a table on the screen. The edited voice data can be either saved in memory or to a file, or can be inserted into a track as bulk data.

Because the DX Simulator is plug-in software for XGworks(lite), you must have XGworks(lite) in order to use it.

The DX Simulator is included on the CD-ROM that was packaged with your PLG100-DX board.

Specifications

Tone Generator Type:

FM tone generator with six operators and 32 algorithms

Maximum Simultaneous Polyphony:

16 notes (latest note priority)

By using multiple boards in combination, polyphony can be expanded to a maximum of 128 notes (with 8 boards)

Filters:

Part EQ (two band), low pass filter, high pass filter (effective only when the platform for the PLG100-DX has no filter functions)

Interface:

XG Plug-in connector

Number of Voices:

912 preset voices, 64 custom voices

Bulk Information that Can Be Received from Other Devices:

DX7 Voice Edit Buffer, Packed 32 Voice

DX7II Voice Edit Buffer, Packed 32 voice, a portion of the Additional Edit Buffer, a portion of the Packed 32 Additional (Pitch EG range, rs, velocity switch, Unison detune, AMS, Random pitch, Poly/Mono, Unison Sw, Pitch bend range, step, Portamento mode, step, time)

Parameter Changes that Can Be Received from Other Devices:

DX7 VCED, a portion of ACED (Pitch EG range, rs, velocity switch, Unison detune, AMS, Random pitch, Poly/Mono, Unison Sw, Pitch bend range, step, Portamento mode, step, time)

Dimensions:

138.5mm (W) x 89.0mm (D) x 8.5mm (H)

Weight 63g

Included Items:

Owner's Manual, CD-ROM x 1

*Specifications or dimensions may change without notice due to improvements in this product.

About the CD-ROM

In addition to the two plug-in software programs, DX Simulator and DX Easy Editor, the CD-ROM that was packaged with your board also contains several demonstration songs that showcase the special features of the PLG100-DX, and also performance data (voice settings) for use in the platform where you have installed your PLG100-DX. The demonstration songs can be enjoyed by playing them with sequence software like XGworks V2.0 or XGworks(lite), or with a QY700. (A platform for connecting the PLG100-DX is also necessary.) Use the same sequence software or device to send the performance data as bulk data to the platform for the PLG100-DX.

Demonstration Songs

"Ie Kia Bara Hein" (IeKiaBar.MID) by Noritaka Ubukata (Shofuku)

The title of the song means "What kind of spell is this?" in the Hindi language. It features the voice that simulates a santur (hammer dulcimer) together with a sitar.

"DX VOICE" (DXVoice.MID) by Noritaka Ubukata (Shofuku)

Starting with the electric piano, this song features a series of the sounds of DX7 Shofuku. Unlike sampling, this music offers the listener subtle variation in the sound caused by changes in velocity. Another special feature is the FM choir, where a more realistic sound is created by combining FM synthesis with sampled human voices.

"Vel&EffectWorks1" (V1_EfWk1.MID)

"Vel&EffectWorks2" (V1_EfWk2.MID)

"DX Short Demo" (DxShtDM.MID) by Yasuhiko Fukuda (Shofuku)

These songs showcase a unique feature of FM: the violent changes in sound that are caused by velocity.

"80's Pops" (80Pop.MID) by Katsumi Nagae (Idecs Inc.)

Recalls the pop scene of the 80's with synpads and metallic sounds like dum bells.

"D-Rock" (D-Rock.MID) by Katsumi Nagae (Idecs Inc.)

This song brings back the digital rock sound using the noise and SE system voices that only DX has.

If you want to use digital noise, there is nothing that works like DX!

"EP Ballade" (EP.MID) by Katsumi Nagae (Idecs Inc.)

If it's ballads you want—well, there is nothing like DX electric piano. The voice in the electric piano part will also work with different electric pianos. Try playing the song with different piano voices.

"House" (HOUSE.MID) by Katsumi Nagae (Idecs Inc.)

The typical house music sound is simulated in this song, which experiments with reproducing sampling phrases using the DX Voice system. In addition, the second half of the song features the metalic sound that is a strong point of the DX.

"Jungle" (DXJungle.MID) by Katsumi Nagae (Idecs Inc.)

This song adds a touch of Chinese feeling to the Jungle. The Oriental image is underscored by the "CHINA_S&" and "IMAGE9" plug-in SE voices.

If no sounds are played, or if you experience other problems with playback, see Appendix "When Your PLG100-DX Seems to Have a Problem" (\rightarrow P. 59).

Installing and Starting the Plug-in Software (Windows95 only)

Installing the Plug-in Software

Double-click on the Setup.exe file in the Plug_ folder on the CD-ROM to start the installation.

Click on "Next" or "Yes" as these words appear on the screen to complete the installation.

Starting the DX Easy Editor

- **1.** Start XGworks(lite).
- **2.** Select "DX Easy Editor" from the XGworks(lite) plug-in menu. The "Select DX Part" dialog will open.
- **3.** Set the part numbers to be assigned to the PLG100-DX, then click on the **[OK]** button. If there is DX bulk data in the sequence data, the DX mark will be displayed under the part number.



Open the DX Easy Editor Window

NOTE For details about using the DX Easy Editor, see the help file that comes with the DX Easy Editor.
If the DX Easy Editor does not appear on the Plug-In menu of XGworks(lite), the program may not be properly installed in the XGworks(lite) folder. You can install it by running the plug-in installation program.

Starting the DX Simulator

- 1. Start XGworks(lite).
- **2.** Select "Select DX Simulator" from the XGworks(lite) plug-in menu. The "Select DX Part" dialog will open.
- **3.** Set the part numbers to be assigned to the PLG100-DX, then click on the **[OK]** button. If there is DX bulk data in the sequence data, the DX mark will be displayed under the part number.

Open the DX Simulator Window



NOTE

- For details about using the DX Simulator, see the help file that comes with it.
- If the DX Simulator does not appear on the Plug-In menu of XGworks(lite), the program may not be properly installed in the XGworks(lite) folder. You can install it by running the plug-in installation program.

Before actually editing the PLG100-DX voices, let's get an idea of how the FM tone generator is put together.

Operators

In the PLG100-DX, there are six special devices called "operators" that generate sine waves. These six operators are combined in various ways to make up the different voices produced by the PLG100-DX. The operators have the following two functions:

- (1) They can freely change the frequency (pitch) of the generated sine wave.
- (2) They can freely change the amplitude (volume or output level) of the generated sine wave.

A sine wave is the fundamental wave of a note, with absolutely no overtones added.



Combinations of Two Operators

Although the six operators can be combined in myriad ways, here the fundamental combinations that involve two operators will be explained.

Two operators can be combined in the following two ways (the two operators will be called A and B respectively):

(1) Horizontal Combination

When the two operators are combined horizontally, the sound generated by each is mixed with the sound from the other. The actual sound (sine wave) is produced by A and B acting together.



(2) Vertical Combination

When the two operators are combined vertically, the upper operator B works to change the sound of the lower operator A, and a complex waveform with many overtones added to it will be the output from operator A. In this situation, the B operator serves only to change the sound of operator A, and does not generate the actual sound. Operator A generates the actual sound as it undergoes changes caused by B. When the upper operator works to change the sound of the lower operator in this way, it is called FM modulation (or simply modulation).



B changes the sound of A (it generates no tone).

While A undergoes changes caused by B, it generates the actual sound.

When these are put together, it looks like this:

- Horizontal Combination
- Vertical Combination

The two operators both generate the sound.

One operator is for changing the sound of the other operator. One operator is for making the sound.

When two operators are combined vertically in this way, they both work completely differently.

Carrier and Modulator

To distinguish the two operators when they are combined vertically, they are called the "Carrier" and the "Modulator."

- Carrier The operator in the lowest position, that produces the actual sound. (Called A in the previous section.)
- Modulator An operator positioned above another operator, which changes (modulates) the sound of the next operator down. (Called B in the previous section.)

When there are three or more operators, each operator is classified as a carrier or modulator in the same way.



- (1) When all the operators are combined horizontally, there is no modulator and they are all carriers. Because there is no modulation, all waveforms generated by the carriers are sine waves.
- (2) When three operators are piled vertically, only the lowest operator is a carrier. The modulator on the top modulates the lower modulator, and the modulated waveform from the lower modulator in turn modulates the carrier. The modulation of the carrier becomes deeper and the sound output has more overtones.
- (3) Here there are two carriers and one modulator. The modulator modulates the carrier immediately below it. The modulated carrier generates sound with overtones. The other carrier produces a pure sine wave. Finally, the sound from the two carriers is mixed to form the whole sound.
- (4) Here there is one carrier and two modulators. The two modulators each independently modulate the single carrier. Since the carrier is modulated by the two modulators, it generates a sound that has more overtones.
- (5) Here there are two sets of two operators that have been combined vertically. In each of them, the modulator modulates the carrier immediately below it, and the carrier generates a sound that has overtones. Finally, the sound from the two carriers is mixed to form the whole sound.

Harmonics

Most sounds are made up of multiple tones that are different than the pitch (frequency). Within these multiple tones, the one that determines the pitch of the entire sound is called the fundamental tone (fundamental frequency). All the tones besides the fundamental tone are called partials or overtones.

When all the harmonics that are related to a particular fundamental tone are arranged in order, it is called a harmonic series. Each tone in the harmonic series is given a name in order, with the fundamental tone being one, followed by the second harmonic, third harmonic and so on.

The frequency of each harmonic in the harmonic series is a natural number multiple of the frequency of the fundamental tone. Overtones that have frequencies that are not natural number multiples of the fundamental are called unharmonic overtones.

Generally, the more harmonics the tone has, the brighter the sound. On the other hand, if the amount of harmonics is reduced, the tone will sound darker. Furthermore, the voice will change a lot according to the type and volume of the harmonics. For example, if there are a lot of high pitched harmonics in the tone, it will have a brilliant, crisp sound. On the other hand, a tone with a large amount of lower harmonics will have a rather massive, dignified sound.



Algorithms

While there may be only two ways to combine two operators, when you start talking about six operators, the number of possible combinations becomes much larger. These combinations of six operators are called "algorithms," and in both the DX7 series and the PLG100-DX, 32 of these combinations have been selected that can be used for creating voices. In an FM tone generator, which operators work as carriers and which work as modulators are changed dynamically by the algorithms. For this reason, the first thing you have to know when editing a voice is which algorithm is used by that voice. The algorithms are numbered from 1 to 32. For information about the 32 algorithms, see "Appendix, Chart of Algorithms" (\rightarrow P. 28).

The six operators have also been numbered from one to six to help in distinguishing them. Let's take algorithm 28 as an example. In this algorithm, the operators work as follows:

Operator 1Outputs sounds while being modulated by Operator 2 (Carrier).Operator 2Modulates Operator 1 (Modulator).Operator 3Outputs sounds while being modulated by Operator 4 (Carrier)Operator 4Modulates Operator 3 while being modulated by Operator 5 (Modulator)Operator 5Modulates Operator 4 while being modulated with its own feedback (Modulator).Operator 6Outputs a sine wave (Carrier)



Feedback

Feedback is a function where a portion of the output of an operator is returned back to the operator again, where it is used to modulate the operator itself. Using feedback results in a deeper sound.

Every one of the 32 algorithms has feedback set in one location. Among them there is even one algorithm, number 4, where the output of three operators as a group is used as feedback. When a portion of the output of operator 4 in this algorithm is returned to operator 6, an extremely deep sound is obtained.



Essentials for Determining Voices

Voices are determined by the following main elements:

- (1) The output level from each operator (OUTPUT LEVEL).
- (2) The frequency of the tone put out by each operator (OUTPUT FREQUENCY).
- (3) The feedback level (FEEDBACK LEVEL).
- (4) The Envelope Generator (EG).

Each of these will be explained in order.

(1) The output level from each operator

When voices are edited, the most important point is the output level for each operator. Among these, the output level of the modulator has the largest effect on the voice. For example, when two operators are vertically combined, and the output level of modulator B is set to zero, the output waveform of carrier A will be a simple sine wave (a dark tone with no harmonics included). If the output level of the modulator is gradually increased from this condition, the amount of modulation will become deeper and the output waveform from the carrier will change to one with many harmonics in it. As the harmonics increase, the tone will also become brighter, finally changing to a harsh, grating sound.

From this we can conclude that the degree of modulation, which equals the brightness of the sound, changes in relation to the output level of the modulator.



On the other hand, because the carrier actually makes the sound, changing the output level causes a change in the strength (volume) of the sound. If there is only one carrier, this will simply cause the overall volume to change. However, if there are multiple carriers in the algorithm, the timbre may also be changed as the balance in volume between the different carriers is changed.

To summarize these points:

- The voice changes according to the output level of the modulators.
- The volume changes according to the output level of the carriers. The voice may also be changed as the balance in volume between multiple carriers changes.

(2) The Frequency of the Tone Output from Each Operator

The type of harmonics added to the carrier output by means of the modulator is determined by the ratio between the frequencies of the modulator and carrier. For example, when two operators are combined vertically, and "F COARSE" for both of them is set to 1.00, the frequency ratio will be 1:1 and the first, second, third and following whole number series harmonics will be generated in order. This type of harmonic configuration is called a sawtooth wave, and is used for making voices like brass, strings, or piano.

If the "F COARSE" for the modulation in this situation is changed to 2.00, the frequency ratio will be 1:2, and the odd numbered harmonics, the first, third and fifth and following harmonics will be generated. This harmonic configuration is called a rectangular wave, and is used for creating voices for woodwinds like the clarinet and oboe.

Furthermore, if "F FINE" is used so that the frequency ratio is not a whole number, many non-integer overtones will be produced. The sound can be used for creating metallic sounds, the noise when strings are hit with something, or breath noise.



(3) FEEDBACK LEVEL

By raising the feedback level, the modulation deepens, and the timbre of the sound becomes brighter.

(4) Envelope Generator (EG)

The EG creates the changes over time in the output level from the instant a key on the keyboard is pressed to the time that the sound disappears.

If you listen to various musical instruments, you soon realize that besides the differences in the timbre of the sounds they create, there is a large difference in the way that the sound first comes out, and in the way in which it fades away. For example, the sound from a piano gets very loud the instant a key is struck, then the volume gradually fades away, even if you continue pressing down the key. Also, if you look at the change in tone over time, there is a bright sound with a lot of overtones the moment the key is struck, but the overtones soon fade away, and the tone takes on a darker aspect.

The function that produces the instrument's change in volume and timbre over time is the EG.

In an FM tone generator, an EG is built into each operator. The EG for the carrier changes its volume over time, while the EG for the modulator changes the timbre of the sound over time.

The memory buffer of the PLG100-DX is configured as shown in the diagram below.





• The only voices that can be edited using an editing program like the DX Simulator are the custom voices.



When using the custom bank

- The following parameters are not valid when using the custom bank because they are saved as voice parameters.
 - XG Native Part Parameters MONO/POLY MODE BEND PITCH CONTROL PORTAMENTO SWITCH PORTAMENTO TIME
 - PLG100-DX Native Part Parameters PitchBend Step Portamento Step Portamento Mode

However, MONO/POLY MODE, BEND PITCH CONTROL, PORTAMENTO SWITCH, and PORTAMENTO TIME are received through CC (Control Change). (When changing to another custom bank voice, that voice will be set to the saved parameters.)

• If an XG System On is received, or part assignment is changed, the custom voices will be initialized, but the 64 voice VMEM and AMEM areas will not be initialized.

The PLG100-DX voices can be selected just like the voices for the XG tone generator itself. However, to use the PLG100-DX voices, XG mode or performance mode (PERFORM) must be selected in the Sound Module Mode of the XG tone generator. Also the part/performance layer assigned to the PLG100-DX must be specified in the sub-mode (PLUGIN) of the utility mode of the XG tone generator.



- NOTE 🖉 The displays used below for explaining tone generator operations are from the MU100. The screens may be different for the tone generator you are using.
 - For tone generators, like the SW1000XG, that have no display, the settings must be sent as System Exclusive Messages (\rightarrow MIDI Data Format).
 - The SW1000XG does not support the Performance Mode.



1. Set the Sound Module Mode of the XG tone generator to XG or PERFORM. When XG is selected, the tone generator will enter Multi Mode. When PERFORM is selected, the tone generator will enter Performance Play Mode.



• DX voices can be selected only when the Part Mode is set to Normal. • In XG Mode, DX voices can be used as one part, and in Performance Mode, as one layer.

- 2. Press the **[SELECT 〈** / **〈**] buttons, and move the cursor to the bank number.
- **3.** Press the [VALUE \ominus / \ominus] buttons and select the bank of the voice you wish to use. Depending on the bank you have selected, one of the following will appear in the bank number location of the display: 000,064 to 082, 096 to 109 (DX-XG/A); 000,064 to 082 (DX-XG/B); 000 (DX-XG/SFX) or 000 (Custom).



When a DX voice is selected, a DX voice icon will appear in the icon area of the display.

NOTE

• Please note that the bank number displayed may be one for the XG tone generator itself. You can make sure that it is one for the PLG100-DX by checking for a DX voice icon in the icon area of the display.

4. Press the [SELECT ♥ / ♥] buttons, and move the cursor to the program number.

5. Use the [VALUE \bigcirc / \bigcirc] buttons to select the voice you wish to use.



Program number display location

When a program number that does not exist for the PLG100-DX is selected when the chosen bank is from 000 to 099, the icon for the voice selected in the XG tone generator itself will be displayed in the icon area.

Specifying Parts/Performance Layers

1. Press the **[UTIL]** button on the panel, and display the utility mode.



2. Press the [SELECT] button several times to move the cursor to "PLUGIN", then press [ENTER].



3. Press the **[SELECT O / O]** buttons as needed to move the cursor to "PLG100-DX," then press the **[ENTER]** button. An editing screen for the system parameters expanded by the PLG100-DX will be displayed.



4. Press the [SELECT **O** / **O**] buttons several times to display "PartAssign," then press the **[VALUE** \bigcirc / \bigcirc] buttons to select the part or layer you want to assign to the PLG100-DX.

When the Sound Modulation Mode is XG, use 01 to 16, or off.

When the Sound Modulation Mode is PERFORM, use 01 to 04, or off.

• SW1000XG does not support the performance mode. NOTE

NOTE

Editing with the parameters below is valid for voices in all banks. However, they cannot be set separately for each voice. This means that whatever editing changes you have made will be transferred as is to the new voice whenever you switch voices (editing done for the previous voice will be also valid for the next voice chosen).



When voices are switched after the parameters have been changed, or when the algorithm is changed with the DX Simulator, unexpected sounds may cause injury to your ears. Always exercise caution when making changes.



Parameters that have been edited cannot be stored in custom voices.
When using the DX Simulator, voices can be edited, then stored in custom voices.

1. In Multi Play Mode, choose the part assigned to the PLG100-DX, then select the voice to be edited.



2. Press the [EDIT] button. The Multipart edit menu screen will be displayed.



3. Press the **[SELECT ○]** button and move the cursor to "PLUGIN". Press the **[EN-TER]** button.

The parameter screen for the selected plug-in board will be displayed.



- Press the [SELECT ◇ / ◇] buttons to move the cursor to the parameter to be edited. Next, change the value for the parameter using the [VALUE ◆ / ◆] buttons.
- 5. Press the **[EXIT]** button several times to return to the initial screen.

NOTE • On the MU100 panel, normal part parameters that can be edited will be valid for DX voices.

■ PLG100-DX Part Parameters

Carrier1 (Carrier Operator 1 Level) to Carrier6 (Carrier Operator 6 Level)

Settings: -64 to +63

Explanation:

- Sets the output level for operators that are working as carriers.
- Carriers are operators that work to output the actual sound. Changing the carrier output level changes the loudness of the sound that is produced. If an algorithm is selected that has multiple carriers, the quality of the sound, or "timbre" can be edited by changing the volume balance between the carriers.
- Because this setting acts as an offset added to the output level set for the voice in the PLG100-DX, it indirectly changes the timbre of the voice. When this parameter is set at zero, the voice will remain as is. Setting it to +1 or more will increase the volume, while setting it to -1 or less will decrease it.
- The operators that are assigned as modulators will be displayed as "***", and it will not be possible to edit them. To clarify matters when editing voices, look up the algorithm number for the voice being edited on the voice list, then check which operators have been assigned as carriers on the Chart of Algorithms (→P. 28).

Modulator1 (Modulator Operator 1 Level) to Modulator6 (Modulator Operator 6 Level)

Settings: -64 to +63

Explanation:

- Sets the output level for operators that are working as modulators.
- Modulators are operators that serve to modulate other operators. Changing the modulator output level changes the brightness (amount of overtones) of the sound that is produced.
- Because this setting acts as an offset added to the output level set for the voice in the PLG100-DX, it indirectly changes the timbre of the voice. When this parameter is set to zero, the voice will remain as is. Setting it to +1 or more will make the sound brighter (increase the overtones), while setting it to -1 or less will darken it (decrease the overtones).
- The operators that are assigned as carriers will be displayed as "***", and it will not be possible to edit them. To clarify matters when editing voices, look up the algorithm number for the voice being edited on the voice list, then check which operators have been assigned as modulators on the Chart of Algorithms (→P. 28).

FeedBack

Settings: -7 to +7

Explanation:

- Sets the level of feedback.
- Feedback is a function where a portion of the output of an operator is returned back to the operator again, where it is used to modulate the operator itself. Feedback can be used to change the brightness (amount of overtones) of the sound.
- Because this setting acts as an offset added to the output level set for the voice in the PLG100-DX, it indirectly changes the timbre of the voice. When this parameter is set to zero, the voice will remain as is. Setting it to +1 or more will make the sound brighter (increase the overtones), while setting it to -1 or less will darken it (decrease the overtones).

PortaMd (Portamento Mode)

Settings: flw/ftm, rtn/fgr

Explanation:

- Portamento is an effect that produces a smooth glide between two notes of different pitch.
- The way in which the Portamento effect is applied is set with the Portamento Mode. However, there will be a large difference in the effect depending on the Poly/Mono setting for the selected voice.

When Poly Mode is set:

- When flw/ftm is set, the Portamento effect will also be applied to the sustained sound from when the sustain pedal is depressed, and to the lingering sound after the hand is removed from the key. The sound will change to the pitch of the next note played.
- When rtn/fgr is set, the Portamento effect will not be applied to the sustained sound from when the sustain pedal is depressed, or to the lingering sound after the hand is removed from the key.

When Mono Mode is set:

- When flw/ftm is set, normal Portamento effect is applied.
- When rtn/fgr is set, the Portamento effect is only applied when the next key is pressed while the first key is held down.



• In the DX7, each is called as follows:

flw: Sus-key P Follow ftm: Full Time Porta rtn: Sus-key P Retain fgr: Fingered Porta

PortaStep (Portamento Step)

Settings: 0 to 12

Explanation:

- Sets the way in which the pitch is changed by the Portamento effect.
- The 0 value sets a normal continuous change.
- Setting 1 to 12 changes sound according to the scale. For example, if 1 is set, the change is by semitones, if 2 is set, it is by whole tones.

PitBndStep (Pitch Bend Step)

Setting Values : 0 to 12 Explanation:

- Determines the way in which the pitch is changed by the pitch bend wheel.
- The 0 value sets a continuous change (the normal setting). Setting 1 to 12 changes the sound according to the scale. For example, if 1 is set, the change is by semitones, if 2 is set, it is by whole tones.

AC4 CC No. (AC4 Controller Assign)

Settings: OFF, MOD, BC, FC, EXP, CAT, PB Explanation:

- When the AC4 controller parameter is set to EGbias, this parameter sets the controller which operates EGbias.
- The settings indicate controllers as follows:

MOD Modulation wheel BC Breath controller FC Foot controller EXP Expression pedal CAT Channel aftertouch PB Pitch bend wheel

• When the amplitude modulation sensitivity of the selected voice has been set to carrier, operating the controller that has been set in this parameter will change the volume in realtime. When the amplitude modulation sensitivity has been set to modulator, the timbre will change.

AC4CtrPrm1 (AC4 Controller Parameter 1)

Settings: Off, EGbias

Explanation:

This specifies whether the EGbias will be controlled by the controller that has been set in the AC4 Control Change Number parameter.

AC4CtrDpt1 (AC4 Controller Parameter Depth)

Setting: -64 to +63

Explanation:

Specifies the depth of operation when EGbias is controlled by the controller that has been set in the AC4 Control Change Number parameter.



• When AC4CtrPrm1 has been set to EGbias, the sound may change when AC4CtrDept1 is set positive, even if the output from the controller set in AC4CCNo.is zero.

RcvDxSysEx (Receive DX System Exclusive)

Setting: OFF, ON

Explanation:

Specifies whether DX system exclusive messages will be received or not.



• The follow conditions must be met for DX system exclusive messages to be received:

With VCED, ACED (Parameter change, Bulk Dump) Bulk select: Custom Bank RcvDxSysEx: ON

With VMEM, AMEM: (bulk dump, 32 voice bulk dump) RcvDxSysEx: ON The parameters that apply to the entire system of the PLG100-DX are added to the utilities of the main XG tone generator.

1. Press the **[UTIL]** button.

The menu screen for the Utility Mode will be displayed.



2. Pressing the [SELECT ○] button and move the cursor to "PLUGIN," then press the [ENTER] button. The plug-in board select screen will be displayed.



3. Press the [SELECT ◆ / ◆] buttons and move the cursor to the plug-in board to be edited, then press the [ENTER] button (select PLG100-DX here).

The parameter screen for the selected plug-in board will be displayed.



- Pressing the [SELECT ◆ / ◆] buttons, move the cursor to the parameter which is to be set. Change the value for the parameter using the [VALUE ◆ / ◆] buttons.
- 5. Press the **[EXIT]** button several times to return to the initial screen.

System Parameters

PartAssign

Setting: 1 to 16, OFF

Explanation:

- Sets the part assigned to PLG100-DX.
- When set to OFF, the parts will not be assigned. Settings 1 to 16 specify part numbers 1 to 16.

BulkBlock

Setting: 01-32, 33-64

Explanation:

• Specifies which custom voice memory, 1 to 32 or 33 to 64, will be used for writing 32 voice bulk data sent to the PLG100-DX from an external MIDI device or computer.

VelCurve (Velocity Curve)

Setting: DX7, Normal, Soft1, Soft2, Easy, Wide, Hard Explanation:

- Sets the velocity curve.
- The velocity curve is the curve that expresses the relationship between the velocity signal received and the volume when the sound is actually generated.
- DX7 sets the velocity curve for the DX7 and DX7II.
- Normal makes velocity proportional to the strength at which the key is struck. This is the velocity curve used in ordinary synthesizers.
- Soft1 is a velocity curve that makes all sounds easy to produce. It is designed for people who have a light touch on the keyboard, or who are beginners at keyboard playing.
- Soft2 is a velocity curve that makes all sounds easy to produce. It is closer to the normal curve than Soft1.
- Easy is a velocity curve where relatively large velocities are easy to produce. Because velocity change in the middle area of the curve is gentle, the velocity is stable.
- Wide is a curve where the velocity is controlled in sections where the key touch is light, and is easy to produce in area where the touch is strong. It gives the feeling of a wide dynamic range.
- Hard is a curve where the sound is not easy to produce over the entire range. It is aimed a people who have a strong touch.

Appendix

Chart of Algorithms













2 4 6 1 3 5

| 5











































1 2

Voice List

DX-XG/SFX Voices

DX-XG/A Voices

Г	Bank Select	MSB	67			
Γ	Bank Select		0			
	nstrument Group	Pgm #		Е	Α	в
s	FX	(1-128) 1	Turn Tbl	1	18	
		17	DX-Clave	1	6	
		18	SideStck	1	17	
		19	Snapie	1	2	
		20	Deep Snr	1	2	
		21	SumohDrm	1	3	
		33	DX-Wave	1	17	
		34	Image 3	1	17	
		49	DX-Piyo1	1	0	
		50	DX-Inct1	1	16	
		51	DX-Grwl1	1	2	
		52	DX-Grwl2	1	18	-
		53 54	Help me!	1	17	-
			DX-Wolf	<u> </u>		
		55	JnglBell	1	5	÷
L		56 65	DX-Inct2 DX-Ring1	1	3	ŀ
L		65	DX-Ring1 DX-TICal	1	5	•
		667	DX-TICal DX-TIBsy	1	23	•
		68	DX-TIBsy DX-TITne	1	12	-
		69	DX-Ring2	1	3	•
		70	DX-Ringz DX-BigBn	1	6	H
		71	IronEch1	1	5	
		72	IronEch2	1	5	-
		73	DX-RvCy1	1	5	ŀ
		74	DX-RvCy2	1	17	ŀ
		81	DX-Hicpt	1	5	
		82	DX-Train	1	5	·
		83	Take Off	1	10	
		84	Mobile 1	1	18	
		85	MotrCycl	1	18	
		86	DX-Ship	1	18	
		87	Closing	1	5	٠
		88	Scrchers	1	17	
		89	MM-Fall	1	18	
		90	DX-Fight	1	18	·
		91	MobyDick	1	12	•
		92	OutLimit	1	5	•
		97 98	Paranoir	1	17	Ľ
			CaGhstLn	_		-
		99 100	MM-Shk 2 Image 1	1	1	-
		100	Image 1 Image 2	1	1	-
		101	Tenjiku	1	0	-
		102	Metal	1	1	H
		103	Fixatone	1	0	F
		105	Spoon	1	1	F
		113	WhikShot	1	18	ŀ
		114	PercShot	1	17	F
		115	Crasher	1	18	·
L		116	Laser 1	1	16	
L		117	Laser 2	1	16	Ľ
L		118	Laser 3	1	1	
L		119	Stopper	1	16	ŀ
L		120	Wallop 1	1	16	Ľ
L		121	Wallop 2	1	16	1
L		122	StreetSD	1	4	·
L		123	ManEater	1	2	•
L		124	SmbaWhsl	1	18	-
L		125	Refs Wsl	1	18	-
L		126	Triangl1	1	23	-
L		127	Triangl2	1	23	-
1		128	SlighBel	1	18	

Bank Select	MSB	83		83			83			83			83		83		83		83	3	
Bank Select	LSB	0		64			65			66			67		68		69		70)	
Instrument	Pgm #		EAB		E	A B		E	A B		E	AВ	E	AB		EAB		EAB		E	AB
Group Piano	(1-128)	FrtePno1	1 9	FrtePno2	1	18	MM-Pno 1	1	19	Digi Pno	1 1	6									
	2	BritPno1	1 7	BritPno2	1		BritPno3	1			1									++	-
	3	DXCP-70	1 4	El.Gnd 1		16 *	El.Gnd 2	1	4		1 1		MM-EGnd1 1			1 19	DigiPoly	1 5	Mark III		10 *
	4	DX-Rgtim	1 15	ToyPno 1	1		ToyPno 2	1	9		1			12		1 9 *	Bell Pno	1 5	Andrian Kasak ED		9
	5	DX-Road1 E.Pno 1	1 28	BigWurlt CIrE.Pno	1	17 *	WurliEP1 E.Pno 2	1	3 *	EP 1980	1 1		DX-Road2 1 E.Pno 3 1	12		1 12	Old Jazz E.Pno 4	1 5	Knock EP E.Pno 5	1	5
	7	Harpsi 1	1 5	Cembalim	1		AD1600s1	1	3 *	Urban AD1600s2	1 3		Harpsi 2 1			1 3	Harpsi 4	1 18	Caffeine		9
	8	MM-Clav1	1 4	MM-Clav2	1		SkitnClv		18	ClavStf1	1 1		Revinett 1	18	Clavecn1	1 2	E.P/Clav	1 11	DX-Clv 1	1	
Chromatic	9	Celesta1	1 31	Celesta2		32	Celesta3	1													
Percussion	10	Glocken1	1 23	Glocken2	1	32	Glocken3	1	7	Glocken4	1 2	4									
	11	MusicBx1	1 5																	\square	
	12	DX-Vibe1	1 27	MM-Vibe1	1		DX-Vibe2	1	23	DX-Vibe3	1 :		DX-Vibe4 1 MtalMrmb 1		BellVibe	1 23	LFO Vibe	1 2 *	Vibetron	1	6 *
	13 14	DX-Mrmb1 DX-Xylo1	1 7	BritMrmb DX-Xylo2	1	7	DX-Mrmb2	1	7	DX-Mrmb3	1	7	MtalMrmb 1	6						++	-
	14	Carillon	1 9	DX-Ayi02 DX-Bel 1	1		MM-Bell	1	27	MiniBell	1 3	6	DX-Bel 2 1	15	DX-Bel 3	1 5	DX-Bel 4	1 9	DX-Bel 5	1	4
	16	DX-Dicm1	1 10	B/C BGI 1	t i		initi Don	÷		Milliben		-	DA DOLE	10	BABGIO		BAC BUILT	1 0	DADOID	1.1	-
Organ	17	FullOrgn	1 32 *	DrwOrg 1	1	32 *	DrwOrg 2	1	29	DrwOrg 3	1 2	9	JazOrg 1 1	32	Farf Out	1 29 *	DrwOrg 4	1 31	DrwOrg 5	1 :	32
	18	PrcOrg 1	1 29 *	PrcOrg 2	1		PrcOrg 3		29		1 3	0	PrcOrg 4 1			1 31 *	PrcOrg 6	1 31	PrcOrg 7	1	
	19	RckOrg 1	1 3 *	RckOrg 2	1		RckOrg 3	1	16		1 1		RckOrg 5 1			1 16	RckOrg 7	1 22 *	RckOrg 8	1 2	25
	20	DXChrch1	1 6	PipeOrg1 SoftRdOr	1	3 28	PipeOrg2		29 12 *		1 1		PipeOrg3 1	6	PipeOrg4	1 5 *	PipeOrg5	1 5		++	-
		PufOrgn1 DX-Acrd1	1 3 *	DX-Acrd2			PufOrgn2 DX-Acrd3	1		StretOrg DX-Acrd4	1 1	4 *	DX-Acrd5 1	3 *						++	+
	23	DX-Hmnc1	1 3 *	DX-Hmnc2	1		BuzzHarp		17 *			1.	FM-Hmnc2 1								-
	24	DX-TngAc	1 3																		
Guitar		DX-AcGt1	1 14	DX-AcGt2	1		DX-AcGt3	1	1	DX-AcGt4	1 ;		Lute Gtr 1			1 16	Mrmb Gtr	1 12			
	26	DX-PkGt1	1 14	DX-PkGt2	1		DX-PkGt3	1			1 :		DX-PkGt5 1	8	DX-PkGt6	1 14	DX-PkGt7	1 3	Tite Gtr	1 '	15
	27	DX-JzGt1	1 18	DX-JzGt2		17	DX-JzGt3	1	8 *		1 (DV 01015 1		DV 01010	4 47	DV OID/R		DV OIGH		
	28 29	DX-CIGt1 DX-MtGt1	1 9 1 9	DX-CIGt2 DX-MtGt2	1		DX-CIGt3 DX-MtGt3	1	4	DX-CIGt4 DX-MtGt4	1 1		DX-CIGt5 1 HevyGage 1	3	DX-CIGt6	1 17	DX-CIGt7	1 3	DX-CIGt8	1	3
	29 30	DX-MtGt1 DX-ODGt	1 9	DX-INIGIZ	11	14	DV-MIGE3	1	11	DA-MIGI4	1	1	nevyoage 1	10						++	-
	31	Fuzz Gtr	1 1	DX-DsGt1	1	16	DX-DsGt2	1	14	DX-DsGt3	1 1	6	DX-DsGt4 1	16	DX-DsGt5	1 1				H	
Bass	33	DX-WdBa1	1 17	DX-WdBa2	1			1	3		1 1			17 *	DX-WdBa4	1 22	DX-WdBa5	1 17			
	34	DX-FgBa1	1 16	DX-FgBa2	1	17	HarmBass	1	17	NstyBass	1 1	7	FustBass 1	18	ClavBass	1 10	DX-FgBa3	1 17 *	Inorganc	1	3
	35	DX-PkBa1	1 16	PickPluk	1		ChifBass	1		Piktrmbs		8	Owl Bass 1		MtalBass	1 4	WireBass	1 10		ЦÍ	
	36	FrtIsBa1 RundMund	1 17	FrtIsBa2	1		FrtIsBa3		12		1 1		FrtIsBa5 1							++	
	37 38	RundWund DigiBas1	1 18	SlapStrg SuprBas1	1		LiteSlap DrhtBass		3 16	ImpctBas Brainacs	1 1	7	Afresh 1 DigiBas2 1							++	-
	39	DX-SyBa1	1 16 *	DX-SyBa2	1		DX-SyBa3		24		1 3		DX-SyBa4 1		BassNovo	1 7 *	DX-SyBa5	1 3	DX-SyBa6	1	3
	40	DX-Bass1	1 17	Remark		17	DX-Bass2		17 *		1 1			16		1 17	DX-Bass4	1 18	Dir Oybub	1.1	
Strings	41	DX-Vin 1	1 2 *	DX-VIn 2	1	2	DX-VIn 3	1	2											+	
	42	DX-Vla 1	1 15	DX-Vla 2		17 *															
		DX-Celo1	1 2	Rosin		18 *	DX-Celo2	1	11	DX-Celo3	11	1								++	
	46 47	DX-Pizz1	1 2	Pizz Str	1		OrthUlan	1	3 *		1									++	-
	47	LuteHarp DX-Tmpni	1 14	Syn Harp	1	3	OrchHarp	1	3 -	Harp+Flt	1	3 *		++						++	+
Ensemble	49	Mid Str1	1 15	Mid Str2	1	15	Brit Str	1	15	DX-Str 1	1 :	2	DX-Str 2 1	2	DX-Str 3	1 15	DX-Str 4	1 15	DX-Str 5	1	2
	50	WarmStr1	1 15	Low Str1	1		Low Str2	1			1		DX-Str11 1	2		1 15 *	DX-Str13	1 2			
	51	DX-SySt1	1 15	Anna Str	1		SmalSect		15 *		1 1		DX-SySt2 1	25		1 25	DX-SySt4	1 9 *	DX-AnSt1	1	2
		DX-SySt6	1 2	DX-SySt7	1	4 *	DX-AnSt3		15	MM-Str 1	1 1		WarmStr3 1		WarmStr4	1 15 *	HalOrch1	1 12	HalOrch2	1	12
	53	DX-Cho 1	1 5 *	DX-Cho 2	1				24		1 .		DX-Cho 5 1								
Brass	55 57	DX-Cho 6	1 11 *	DX-Cho 7	1		DX-Cho 8		29 *		1		MM-Vce 2 1	6 *	MM-Vce 3	1 6 *	Dbvoxfem	1 26 *	Lady Vox	1 2	26
DIdSS	57	DX-Trpt1 DX-Trb 1	1 18 * 1 18 *	DX-Trpt2 DX-Trb 2	1	18 *	DX-Trpt3 Mute Trb		18 *	DX-Trpt4	1 1	18 -	SlvTrmpt 1	10						++	+
	59	DX-Tuba1	1 18 *	DX-Tuba2		18 *	mole IID	÷	-		+	+								++	+
	61	DX-Horn	1 9	MelwHrn1	1		MelwHm2	1	3 *	MletHorn	1 1	8	BinchHrn 1	2	AlpsHorn	1 15 *	VibraHrn	1 17 *		++	
	62	DX-BrSc1	1 22	DX-BrSc2	1		5th Brss	1			1 :			22	BlowBrss	1 9 *	BrssSect	1 2	WarmBrss	1	9 *
	63	CS80-Br1	1 23 *	CS80-Br2		22 *	DX-SBr 1		22		1 2	22 *	DX-SBr 3 1			1 2 *	DX-SBr 5	1 2	DX-SBr 6	1 2	
	64	ChorsBrs	1 2	SyntiBrs	1	2	DX-SBr 7	1	18	SamplBrs	1 3	2	SinglBrs 1	22	ThickBrs	1 2	XyloBrss	1 29 *	OrchBrss	1	2
Reed	65	SprnoSax	1 10 *		+	_					+	+						+++		++	-
	66 67	Alto Sax TenorSax	1 18 *	DX-Tsax	1	15 *		H			+	+								++	+
	69	Oboe 1	1 3 *	Oboe 2	1	3	Oboe 3	1	27			+								++	-
	70	Eng.Horn	1 4 *																	++	
	71	Bassoon	1 2																		
	72	VbrtClar	1 5 *	SlowClar		4	DX-Clar1	1	2 *	DX-Clar2	1 1	15 *								+	_
Pipe	73	Piccolo1	1 5	Piccolo2	1							-									
	74 75	DX-Flt 1 Recordr1	1 16 *	DX-Flt 2 Recordr2	1		DX-Fit 3 Recordr3	1	16 * 6 *	DX-Fit 4	1	5 *	DX-Flt 5 1	16 *	DX-Flt 6	1 16 *	DX-Fit 7	1 16 *	MtalFlut	1	2 *
	76	DX-PnFl1	1 5	Forest99		2	Harvest	1			+	+								++	+
	77	Fuhppps!	1 11 *	DX-Botle	1		Quena	1	2												
	79	Whistle1	1 16 *																		
	80	DX-Ocrn1	1 14 *	DX-Ocrn2		4			3		T			1T						ЦŢ	
Synth	81	DX-Squar	1 2	DX-SLd 1			DX-SLd 2		22	LyleLead		3	DX-SLd 3 1	6		1 18	DX-SLd 5	1 6	DX-SLd 6	1	2
Lead	82 83	DXSyLd 1 CaliopL1	1 18	DXSyLd 2 CaliopL2	1	9	DXSyLd 3 PuffPipe		24 12		1 1		DXSyLd 4 1	4	DXSyLd 5	1 5 *	DXSyLd 6	1 1	DXSyLd 7	11	10
	84	BrsLead1	1 2	DX-WahLd			BrsLead2	1		BrsLead3	1 1		DXAtkLd 1	16						H	
	85	Au Campo	1 2 *	LeadPhon	1		SweepLd		18	LdSbHarm	1 2	26 *									
	86	DX-VceLd	1 18	Giovanni	1	6	SnglLine		22												
	87	Fifths 1	1 3	Fifths 2	1			ļ				1	C 41.1							μſ	
Synth Pad	88 89	LeadLine HyperSqr	1 18	BassLead Cho+Mrmb	1	22	EadgbeLd		14		1		FrtIsLd 1 TngVoice 1	4	Str Tine	1 12				+	
Synan Pau	89 90	Film Pad	1 16	DX-SawPd		14	IceHeven ElecComb	1	9 4 *	MM-Prety FI.Cloud	1 :	3 5	Floating 1			1 12	WhstlPad	1 25 *		++	
	90	BritePad	1 15	SyBr Pd1		12 *	SyBr Pd2	1			1 1	5	SyBr Pd4 1		SyBr Pd5	1 4	SyBr Pd6	1 19	SyBr Pd7	1	2
		DX-ChPd1	1 15 *	Anna Pad		2 *	Whisper1	1			- 1				,		,		, . <u>.</u> .	1 t	
	93	BowPad 1	1 5 *	BowPad 2	1	5 *	BowPad 3	1	7 *	Ethereal	1	5	Glassy 1	1 11	GlssHarp	1 16	Ice Gixy	1 3	SpceTrip	1	23
	94	DX-MtPd1	1 6 *	InitEnsm	1		MtiSweep	1	9 *	Gior Pad	1 1	9								T	
		GrngePad	1 15	StacHevn		9														ЦÍ	
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NOTE : Empty areas of the columns produce no sound.

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110 Dx Berging 11 20 *			4				μ		4	4			Ц		1			H		H				47	-		£,	2		1	1	_	DX-Koto	108	
111 DxFafe 1 2 112 SchTore 117			+	+	-	_	H		+	+			H	-	+			H		H		-		+	-		÷	20 *	H	+	1		DX-KImb1	109	
112 SchTure 117 Image: Control of the state of t			+				H		+	Ŧ			H		+			H		H				+	T		t					-	DX-Fidle	111	
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115 StiDrum1 1 5 116 Block 1 18			Ŧ	T			П		4	Ŧ			I		Ţ			П		П				P	T		Ţ	5		1	1	1	HandBel1	113	Percussive
116 Block 1 18			+						4	+			H		+		-	H		H				+	-		+	8	H	1	1	1	DX-Aggo1 StIDrum1	114	
			+			_	H	1	+	+			H	-	+			H		H				+	+		+	18	1	1	1		Block	116	
117 Janpany 1 16 1									t																		T	16	1	1	1		Janpany	117	

 $E: Element \ number \ A: Algorithm \ number \ B: EG \ Bias \ (voices \ with \ this \ effect \ are \ marked \ ``*'')$

Bank Selec	t MSB	83			83			83			83			83			83			83			83		
Bank Selec		0			78			79			80			96			97			98	_		99	_	
Instrument Group	Pgm # (1-128)		Е	A B		E	A B		E	AE		ΕA	в		E	A B		E	A B		Е	A B		E	AB
Piano	1	FrtePno1		9											1 1				19	Pno+Flt	1	3			
	2	BritPno1 DXCP-70	1	7 4		+				+		+	+		1		5th Pno2	1	5		_			Η	
	4	DX-Rgtim	1	15																					
	5	DX-Road1 E.Pno 1	1	28 5	E.Pno10	1	5			+		+	+		1	5	Hard EP1 Prds Pno		28 13	Hard EP2 Brit EP	1	11	Hard EP3 Det.EP4	1	5 *
		Harpsi 1	1		E.PHOTO	Ľ	5			+		+	+			5 *	Harpsi 7		9	Harpsi 8	1	3	Harpsi 9	1	3 *
	8	MM-Clav1		4	DX-Clv 5	1	16							MM-Clav3	1		DX-Clv 6		4	DX-Clv 7	1		MuteClav	1	11
Chromatic Percussion	9 10	Celesta1 Glocken1		31 23		⊢			+	+		+	+		12	5 *	Hallowen Glocken6	1	14 *		1		WrapRund		8
	11	MusicBx1	1	5										MusicBx2	1		MusicBx3		19			24 *	MusicBx5		22
	12 13	DX-Vibe1 DX-Mrmb1	1	27		-				+		+	+	MM-Vibe2 DX-Mrmb4	12		DX-Mrmb5		5	DX-Mrmb6	_	7	DX-Mrmb7	Ļ	7
	14	DX-Xylo1	1	9										DX-Xylo3	1	7	DX-Xylo4	1	7	DX-Xylo5	1	6	DX-Xylo6	1	5
	15	Carillon	1	9						_					1		DX-Bel 8		16			17	DX-Bel10	1	30
Organ	16 17	DX-Dlcm1 FullOrgn		10 32 *		+				+		+	+		11		Frzntime DrwOrg14		16 12			2 31	Grinder		11
	18	PrcOrg 1	1	29 *	SynOrg 1	1	28							PrcOrg15	1	31 *	PrcOrg16	1	5	PrcOrg17	1	6			
	19 20	RckOrg 1 DXChrch1	1			+				+		+	+	RckOrg13 PipeOrg6	1 1	29	RckOrg14 PipeOrg7		29 25	RckOrg15 PipeOrg8	1	29 29	BritOrgn		25
	21	PufOrgn1	1												1 1		X-ReedOg	2	*	Tipeoige		2.0	Binorgi	Ë	2.0
	22	DX-Acrd1 DX-Hmnc1	1	3 *						_		_		DX-Acrd6 DX-Hmnc3	1	3	DX-Hmnc4		28						
	23	DX-Hinner DX-TngAc	1	3		+				+		+	+	DX-HIIIIC3	1	-	DX-HIIIIC4	t	20		۲			H	
Guitar	25	DX-AcGt1		14																					
		DX-PkGt1 DX-JzGt1		14 18		+				+		+	+		1	8 *	Stlypika	1	17	DetClGt1	2	·	DetClGt2	2	·
	28	DX-CIGt1	1	9											1		DXCIGt10	1	17	DXCIGt11	1	12		H	
		DX-MtGt1 DX-ODGt	1	9 14		F	HT		H	-		F	F		H			F	H			H		P	H
	31	Fuzz Gtr	1	1		F										•	DetDsGt2	2	•		٢			۲	
Bass	33	DX-WdBa1		17								1	T	DX-WdBa6	11		DX-WdBa7		14			16	BassLgnd		18
		DX-FgBa1 DX-PkBa1		16 16		-			+	+		+	H		1		DX-FgBa4 DX-PkBa3		16 18			17 17	HardFngr CompedEB		18 18
	36	FrtIsBa1	1	17										DetFIBa1	2	•		É						Þ	
	37 38	RundWund DigiBas1		18 16					H	+		+	+	WireStrg SuprBas2	1			⊢						۲	\vdash
	39	DX-SyBa1	1	16 *										DX-SyBa9	1		BassRsWp	1			2	•		۲	
0.1		DX-Bass1		17						_		-			1 1		DX-Bass6 Det.VIn1	1	16 *	DiscBass	1	14 *	PercBass	1	14
Strings	41 42	DX-Vin 1 DX-Via 1	1	2 * 15		⊢			+	+		+	+		1		Det.Vin1	2	-		۲	+		۲	
	43	DX-Celo1	1	2											1										
	46	DX-Pizz1 LuteHarp	1	2		+				+		+	+	DX-Harp1	1	3	DX-Harp2	1	3	DX-Harp3		3	Apollon	1	3
	48	DX-Tmpni		16										BATTAIPT	·		DATIGPE	Ė	Ū	BX Harpo			ripolion	H	Ű
Ensemble	49 50	Mid Str1	1	15 15						_					1										
	50	WarmStr1 DX-SySt1		15		⊢			+	+		+	+			3 *	Violtron	1	2	General	1	2	OchChime	1	5
	52	DX-SySt6	1	2										Det.Str2	2	•	Det.Str3	2	•		2	•	Det.Str5	2	•
	53 55	DX-Cho 1 DX-Cho 6	1	5 * 11 *		+				+		+	+		1		DX-Vce 2	1	1 *		-			H	\vdash
Brass	57	DX-Trpt1	1	18 *										Solo Tp	1	18 *		t						Ħ	
		DX-Trb 1 DX-Tuba1	1	18 * 18 *		-				_		+	+	DX-Trb 3	1 '	18		+			_			μ	\vdash
		DX-Hom	1	9		⊢			+	+		+	+	SimplHrn	1	9		t						H	
	62	DX-BrSc1		22										HardBrss	1	22 *									
	63 64	CS80-Br1 ChorsBrs	1	23 * 2	Ana Poly	1	22	Court	1 :	22	Juice	1 2	0		1		AnalogBr EP+Brs 1	1			1	2 *	SyPdBrss	2	·
Reed	65	SprnoSax	1	10 *														Ė				Ē			
	66 67	Alto Sax TenorSax	1	18 *		+			-	+		+	+	DX-ASax1	11	18	DX-ASax2	1	17		_			Η	\vdash
	69	Oboe 1	1	3 *														t							
	70	Eng.Horn	1	4 *						_		_						-							
	71 72	Bassoon VbrtClar	1	5 *		+				+		+	+	DX-Clar3	1	6 *		t			۲			۲	
Pipe	73	Piccolo1	1	5																					
	74 75	DX-Flt 1 Recordr1	1	16 * 5		+				+		+	+	Song Fit	1	12 *		⊢			۲			۲	
	76	DX-PnFI1	1	5										DX-PnFl2	2	•									
	77 79	Fuhppps! Whistle1	1	11 * 16 *		+				+		+	+	Sukiyaki	1 1	16	Whistle2	1	6 *	Whistle3	1	6	Csmwhist	1	5
	80	DX-Ocm1	1	14 *																				Ë	
Synth	81	DX-Squar	1			-				_		+			1		DX-SLd 8		22			18 *	DXC-1-0		
Lead	82 83	DXSyLd 1 CaliopL1	1	18 16											1 '		ArrowxMs	1			1		DXSyLd9	ŕ	
		BrsLead1	1	2		F	H		H	T		F		DX-BrLd1	1	2	DX-SwLd1	1	16	DX-SwLd2	1	18	DX-SwLd3	2	·
	85 86	Au Campo DX-VceLd		2 * 18		F			H	+		+	t		H	-		t			۲			۲	+
	87	Fifths 1	1	3														F						P	
Synth Pad	88 89	LeadLine HyperSqr	1	18			\square		+	+		+	H	MpndgDom		31 *	EP Pad	2	•			+		۲	\vdash
	90	Film Pad	1	16														Ê						F	
		BritePad DX-ChPd1		15 15 *					H	1		+	H	Cho Elms		5	DX-ChPd2	ŧ.	16 *	AngelEvo		27	DX-ChPd3	2	.
		DX-ChPd1 BowPad 1	1	15 *		F			H	+		+	۲	Dstrcted	1	12 *		ť	10	AngeiEV0	÷	27	DA-GIIP03	ť	
	94	DX-MtPd1	1	6 *										Mystrian	1 2	20	DX-MtPd2	2	•					P	
	95 96	GrngePad SweepPd1	1	15 9 *		-			+	+		+	+		H	-		t				+		۲	+
Synth	98	FluvPush	1	1													Sanctus	1	23	Glastine	1	5 *		F	
Effects		MtalGlkn PrdsGlok	1	5					+	+		+	+			6 *	IceRvEco	1	8 *	DX-HpSt2	2	•		μ	
	101	DX-Brit1	1	5		F						+		BellStr1		9 *	BellStr2	2	•	DA HOULE	Ì			۲	
	102	Fmilters WaterLog	1	11 *		F			T	1		T	T	DX-BL+Ch	2	26 *		Ę.	15 *	Aura	1	2 .	MM-Shk 1	1	5
		WaterLog DX-ScFi1	1	16 * 6 *		-			H	+		+	۲	rntasynt	-	20	RprtRise	ť	10	Auta	Ż		WIM-SINK 1	ť	5
Ethnic	105	DX-Sitr1	1	8								1		Zimbalon	1	8	Xango	1	4	India	1	9	Pilgrim	1	2
		DX-Banjo Shamisn1	1	8 16					-	+		+	+		+	-		+						μ	
	108	DX-Koto	1	2														t						۲	
	109	DX-Kimb1	1	30 *						1		T	T	DX-Kimb4	1 '	18		F			٥	F		P	H
		DX-BgPip DX-Fidle		20 *		-			H	+		+	H		H	-		t						۲	+
	112	ScchTone	1	17														Į,						P	
-		HandBel1	1						+	+		+	+		1			t						۲	\vdash
Percussive	114	DX-Agno1								-		100	100		- 1 I.		1	4100			and it	e 11.		- 11 C	
Percussive	114 115	DX-Aggo1 StIDrum1	1	5										DX-StDr1	1 '	15	DX-StDr2	1	15	DX-StCn1	1	1	Glaeser	1	5
Percussive	114 115 116	DX-Aggo1 StlDrum1 Block Janpany	1							+		╞		Log Drum	1 1	14	DX-StDr2 DX-Perc1		15		Ĺ	1	Glaeser DX-Bongo	1	

E: Element number A: Algorithm number B: EG Bias (voices with this effect are marked "*")

1 1 </th <th>Bank Select</th> <th>t MSB</th> <th>83</th> <th></th> <th>83</th> <th></th> <th>83</th> <th></th> <th></th>	Bank Select	t MSB	83		83		83			83			83			83			83			83		
Image Image <th></th> <th>t LSB</th> <th>0</th> <th></th> <th>100</th> <th></th> <th>101</th> <th></th> <th></th> <th>102</th> <th></th> <th></th> <th>103</th> <th></th> <th></th> <th>104</th> <th></th> <th></th> <th>105</th> <th></th> <th></th> <th>106</th> <th>-</th> <th>-</th>		t LSB	0		100		101			102			103			104			105			106	-	-
1 1 1 1 1 1 1 1 1 1 1 1 1 <td>Group</td> <td>(1-128)</td> <td></td> <td></td> <td></td> <td>EAB</td> <td></td> <td>E</td> <td>A B</td> <td></td> <td>Е</td> <td>A B</td> <td></td> <td>E A</td> <td>в</td> <td></td> <td>Е</td> <td>AB</td> <td></td> <td>Е</td> <td>А</td> <td>в</td> <td>Е</td> <td>Α</td>	Group	(1-128)				EAB		E	A B		Е	A B		E A	в		Е	AB		Е	А	в	Е	Α
1 1	Piano		FrtePno1 1					\square	_		\square	-					_	_			_		H	4
1 1 1 1 1 1 1								H	+		H	+			+					H	-		H	+
1 1			DX-Rgtim 1	15	Lined CD4	4 6	CasaDasa		-	50.4005			0.0504			0-150.0	2		Det ED 2	2			Π	_
1 1			E.Pno 1 1	28		2 *	Det.EP6	2	•	EP 1985 Det.EP 7	2	•	Det EP8	2 *		Det.EP 2 Det.EP 9		•	Det.EP 3 Det.EP10	2	•		H	+
		7	Harpsi 1 1	5	AD1900s1								DULLIO	-										
Name	Chromotic				ChrsClav	1 4	BasoClav	1 1	17	Det.Clav	2	•			\square		_	_		\square	_	_	1	-
1 1	Percussion	10	Glocken1 1	23	HamerGlk		PppThing	1	5	Syn.Glok	1	5	PercGlok	1 5	•									
1 1 1 1 1 1 <td></td> <td>11</td> <td>MusicBx1 1</td> <td>5</td> <td>MusicBx6</td> <td>1 24 *</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>5</td> <td></td>		11	MusicBx1 1	5	MusicBx6	1 24 *					1	5												
					EchoMit1	1 5	EchoMit2	1	5	EchoMit3	1	5	MelwMrmb	1 8	H	Gtrimba	1	12	SynDecay	2	•		H	+
N N N N N N N		14	DX-Xylo1 1	9	DigiXylo	1 24 *																		
					DX-Bel11	1 22	DX-Bel12	1	5	TmplBel4	1	5	TmplBel5	1 7		BlowBell	1	5	SoftBell	1	1	DumBells	1	5
	Organ	17	FullOrgn 1	32 *	DrwOrg16	2 *	DrwOrg17	2	•	DrwOrg18	2	•			H		-			H	-		H	+
			PrcOrg 1 1																					
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1 1		28	DX-CIGt1 1	9																				
								H	-		H	-			H					H	-		H	4
		31	Fuzz Gtr 1	1				Ħ																
Set Set <td>Bass</td> <td>33</td> <td>DX-WdBa1 1</td> <td></td> <td></td> <td></td> <td></td> <td>Ħ</td> <td></td> <td></td> <td>Ħ</td> <td></td> <td></td> <td></td> <td>F</td> <td></td> <td>1</td> <td>T</td> <td></td> <td>П</td> <td>1</td> <td></td> <td>Ħ</td> <td>4</td>	Bass	33	DX-WdBa1 1					Ħ			Ħ				F		1	T		П	1		Ħ	4
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1 1			RundWund 1 DigiBas1 1					H			H	-			H			-		H	-		H	+
image image <th< td=""><td></td><td>39</td><td>DX-SyBa1 1</td><td>16 *</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		39	DX-SyBa1 1	16 *																				
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Image: bold state	Sungs		DX-Vla 1 1	15				H	+		\vdash	+			H					H	+		H	-
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44 6.7			DX-Pizz1 1 LuteHarp 1		HarpStrm	1 3	CmbaHarp	1	19 *		++	+			+		-	-		\mathbb{H}	+		H	+
10 10 <		48	DX-Tmpni 1	16																				
1 0.5.8.9 1 0 0 0 0 <td>Ensemble</td> <td>49</td> <td>Mid Str1 1 WarmStr1 1</td> <td>15</td> <td></td> <td></td> <td></td> <td>++</td> <td>+</td> <td></td> <td>\vdash</td> <td>+</td> <td></td> <td></td> <td>\vdash</td> <td></td> <td>_</td> <td>_</td> <td></td> <td>\square</td> <td>_</td> <td></td> <td>-</td> <td>-</td>	Ensemble	49	Mid Str1 1 WarmStr1 1	15				++	+		\vdash	+			\vdash		_	_		\square	_		-	-
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10 0.0006 1 0 <		52	DX-SySt6 1	2																				
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69 0.7	Brass	57	DX-Trpt1 1																					
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eff Tench 1 </td <td>Reed</td> <td>65</td> <td>SprnoSax 1</td> <td>10 *</td> <td></td>	Reed	65	SprnoSax 1	10 *																				
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64 81.4.3mp 9 2 80.4.3mp 9 2 8 9 1 <th1< th=""> <th1< th=""> 1 <</th1<></th1<>	2000	83	CaliopL1 1	16				H																-
66 0X-cond 1 1 0 0 0 0 <td> </td> <td>84</td> <td>BrsLead1 1</td> <td>2</td> <td>SoftLd1</td> <td>2 *</td> <td></td> <td>H</td> <td></td> <td></td> <td>H</td> <td></td> <td></td> <td></td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>H</td> <td>-</td> <td></td> <td>H</td> <td>4</td>		84	BrsLead1 1	2	SoftLd1	2 *		H			H				P					H	-		H	4
if i		86	DX-VceLd 1	18				Ľ			Ħ												H	
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10 File Au 1<	Synth Pad							H	-		H	-			۲					H			H	+
192 DX-ChP4 1 1 N DX-ChP4 2 N	· · · · ·	90	Film Pad 1	16																				
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19. Chargend 11 15 1		93	BowPad 1 1	5 *	BX OIL GV	-		\square			H													
66 SwepPi 1 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 </td <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Ħ</td> <td></td> <td></td> <td>H</td> <td></td> <td></td> <td></td> <td>F</td> <td></td> <td></td> <td>T</td> <td></td> <td>П</td> <td>1</td> <td></td> <td>Ħ</td> <td>4</td>								Ħ			H				F			T		П	1		Ħ	4
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103 Water of 1 0 Chr.SeH 1 0 DX-End 2 <th2< th=""> <th2< th=""> <th2< th=""> <th2< th=""></th2<></th2<></th2<></th2<>		101	DX-Brit1 1	5																				
100 XX-Set1 1 0 ×		102	Fmilters 1 Waterl.co. 4	11 *	New Elmo	1 5	Chi Set 14	Į		DV Ech-4					F		1	T		Ħ	Ţ		Ħ	4
International condition International		103	DX-ScFi1 1		INEW EIMS	1 5	UNI-S&H1	1	3	UX-Echo1	2				۲					H	-		H	+
107 Shamint 116 1	Ethnic	105	DX-Sitr1 1	8	Kinzoku1	1 3	Kinzoku2	1	5		Π													
100 DX-Kanol 1 2 1 2 1 2 1 2 1 2 1 <th1< th=""> 1 1 <th1<< td=""><td> </td><td>106</td><td>DX-Banjo 1 Shamise1 4</td><td></td><td></td><td></td><td></td><td>H</td><td>-</td><td></td><td>H</td><td>-</td><td></td><td></td><td>H</td><td></td><td></td><td>-</td><td></td><td>H</td><td>-</td><td></td><td>H</td><td>+</td></th1<<></th1<>		106	DX-Banjo 1 Shamise1 4					H	-		H	-			H			-		H	-		H	+
100 DX-Muh 1 30 C		108	DX-Koto 1	2				Ľ			Ħ												H	+
111 DX-file 1 2 Image: Control on the state of the state		109	DX-Kimb1 1	30 *				H	-		H	-			F		1	T		цŢ	Ţ		H	4
112 SconTone 117 Image: 1 1 Percussion 11 5 L Image: 1 5 L 114 DX-Ago: 1 1 5 L Image: 1 1 Image: 1								H			H				۲					H	-		H	+
114 DX-Aggs1 1 8 115 Bildmint 1 5 Lignerar 1 4 116 Biock 118 1 4 1 4 117 Janpary 116 6 6 6 6 6		112	ScchTone 1	17																				
115 SUDUM1 1 5 Lighter 1 4 6 6 6 6 6 6 6 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 8 7 8 8 7 8	Percussive							H			H				Η			-		H	_		H	4
116 Block 118 117 117 117 117 117 117 117 117 117		115	StlDrum1 1		LigtYear	1 4		H			H												H	Ŧ
117 Janpany 1 19		116	Block 1	1 18				П			Π	-						T		П			P	4
		117	Janpany 1 MM-SDr 1 4					H	-		H	-			H					H	-		H	4

 $E: Element \ number \ A: Algorithm \ number \ B: EG \ Bias \ (voices \ with \ this \ effect \ are \ marked \ ``*'')$

Bank Select	MSB	83				83				83				83	_		_
Bank Select	LSB	0				107				108				109			
Instrument Group	Pgm # (1-128)		Е	A	в		Е	А	в		Е	А	в		Е	А	в
Piano	1	FrtePno1 BritPno1	1	9													
	2	BritPno1 DXCP-70	1 1	7			-						╞		Н	_	┝
	4	DX-Rgtim	1	15													F
	5 6	DX-Road1 E.Pno 1	1 1	28 5			-						╞		H	-	⊢
	7	Harpsi 1	1	5			⊢						⊢		H	_	t
	8	MM-Clav1	1	4													Γ
Chromatic Percussion	9 10	Celesta1 Glocken1	1	31 23	-		-		-		_		⊢		H		┝
1 010000011	11	MusicBx1	1	5												_	t
	12	DX-Vibe1	1	27													
	13 14	DX-Mrmb1 DX-Xylo1	1	7	-		⊢	-	-		-		⊢		Н	_	┢
	15	Carillon	1	9		Crystal	1	5		MeloBell	1	32		Det.Bell	2	•	Γ
	16	DX-Dlcm1	1	10													
Organ	17	FullOrgn PrcOrg 1	1	32	•		-	-					⊢		Н	_	⊢
	19	RckOrg 1	1	3	•												
	20 21	DXChrch1 PufOrgn1	1 1	6 12			-						-			_	╞
	22	DX-Acrd1	1	3	•		-						⊢		H	_	t
	23	DX-Hmnc1	1	3	٠												Γ
Guitar	24 25	DX-TngAc DX-AcGt1	1	3 14	-		-		-		_		⊢		H		⊢
Contai	26	DX-PkGt1	1	14												_	t
	27	DX-JzGt1	1	18	F		F		F				F		Į I		ſ
	28 29	DX-CIGt1 DX-MtGt1	1	9 9	\vdash		H		F				F		H		F
	30	DX-ODGt	1	14													f
Bass	31 33	Fuzz Gtr DX-WdBa1	1	1	-		H		F				H				f
	33	DX-FgBa1	1	17 16	⊢		F		F				F		H		t
	35	DX-PkBa1	1	16													Γ
	36 37	FrtIsBa1 RundWund	1 1	17 18	\vdash												ŀ
	38	DigiBas1	1	16	-		⊢	-			-		⊢		H	_	t
	39	DX-SyBa1	1	16	٠												Г
Strings	40 41	DX-Bass1 DX-VIn 1	1	17	•		H		H				H		H		⊢
ounigo	42	DX-VIa 1	1	15			-						F		H	-	t
	43	DX-Celo1	1	2							_						
	46 47	DX-Pizz1 LuteHarp	1	2	-		-				_		⊢		H	_	┝
	48	DX-Tmpni	1	16													t
Ensemble	49 50	Mid Str1 WarmStr1	1	15 15													
	50	DX-SySt1	1	15 15	-		-	-					⊢		Η	_	⊢
	52	DX-SySt6	1	2													t
	53 55	DX-Cho 1	1	5 11	•								-				+
Brass	55	DX-Cho 6 DX-Trpt1	1	11	•		-						┝		Η	_	┢
	58	DX-Trb 1	1	18	٠												Γ
	59 61	DX-Tuba1 DX-Hom	1	18 9	•		-		-		_		⊢		H	_	╞
	62	DX-Hom DX-BrSc1	1	22	-		⊢						⊢		Н	_	┢
	63	CS80-Br1	1	23	٠												
Reed	64 65	ChorsBrs SprnoSax	1	2	•		-						-			_	┝
Reed	66	Alto Sax	1	18	•								⊢		H	_	t
	67	TenorSax	1	27	•												F
	69 70	Oboe 1 Eng.Horn	1	3	•		-						⊢		H		┝
	71	Bassoon	1	2													t
n'	72	VbrtClar	1	5	٠											_	-
Pipe	73 74	Piccolo1 DX-Flt 1	1	5 16	•		⊢		-		-		⊢		Н	_	H
	75	Recordr1	1	5													
	76 77	DX-PnFI1 Euboonsl	1	5									H				F
	79	Fuhppps! Whistle1	1	11	•		F		F				F		H		t
	80	DX-Ocm1	1	14	٠												ľ
Synth Lead	81 82	DX-Squar	1	2	\vdash								F				ſ
2080	83	DXSyLd 1 CaliopL1	1	18 16	t		F		F				F		H		f
	84	BrsLead1	1	2													ſ
	85 86	Au Campo DX-VceLd	1	2 18	ŀ		\vdash						H		H		╞
	87	Fifths 1	1	3	E		E		E				Ē				t
Current D 1	88	LeadLine	1	18	-		Í		Í		Ĩ		Ē		Į I		ſ
Synth Pad	89 90	HyperSqr Film Pad	1	5 16	É		F		F				F		H		F
	91	BritePad	1	15	L												t
	92 93	DX-ChPd1 BowPad 1	1	15 5	•		Ĺ		ľ				Ĺ		Į.		f
	93 94	BowPad 1 DX-MtPd1	1	5	•		F		F				F		۲		t
	95	GrngePad	1	15													t
Sunth	96	SweepPd1	1	9	٠		ſ	F	ſ		Í		É		П	<u> </u>	ſ
Synth Effects	98 99	FluvPush MtalGlkn	1	1	\vdash		F		F				F		H		f
	100	PrdsGlok	1	5													Γ
	101 102	DX-Brit1 Fmilters	1	5 11			-										ŀ
	102	Fmilters WaterLog	1	11	•		F		F				F		H		t
	104	DX-ScFi1	1	6	٠												ſ
Ethnic	105 106	DX-Sitr1 DX-Banio	1	8	-		F		F				H				f
	106	DX-Banjo Shamisn1	1		⊢		F		F				F		H		t
	108	DX-Koto	1	2													f
	109	DX-KImb1	1	30	•		Ľ		ľ				Ľ				f
	110	DX-BgPip DX-Fidle	1	20	Ė		F		F				F		H		t
	112	ScchTone	1	17													t
		HandBel1	1	5	1										Ē		ſ
Percussive	113			0													a i i
Percussive	114	DX-Aggo1	1	8											H		F
Percussive			1	8 5 18 16													F

E: Element number A: Algorithm number B: EG Bias (voices with this effect are marked "*")

DX-XG/B Voices

Bank Select		99				+	99				99 65				99 66			_	99			99			99			-	99		-
Bank Select Instrument	Pgm #	0	Te	- 1	AE	+		Е				E		6		c .		0	67	E		68	E		69		A	1.0	70	<u>ا</u> ر	г
Group iano	(1-128)	FrtePno1	E		9	_	FrtePno2		A 18	P	MM-Pno 1		A 19	P	Digi Pno		A 16	P		=	A B		-	A B		-	~	•		E	ľ
iuno.	2	BritPno1	1	1	7	E	BritPno2	1	18		BritPno3	1	3		5th Pno1	1	5													t	t
		DXCP-70 DX-Rgtim		1			El.Gnd 1 ToyPno 1	1	16 30	•	El.Gnd 2 ToyPno 2	1		⊢	El.Gnd 3 ToyPno 3		11 3		MM-EGnd1 ToyPno 4	1		MM-EGnd2 PrprdPno	1	19 9 *	DigiPoly Bell Pno		5 5	+	Mark III Andrian		1
	5	DX-Road1	1		28	E	BigWurlt	1	17	•	WurliEP1	1	3	ŀ	EP 1980		17	·	DX-Road2	1	12	DX-Road3	1	12	Old Jazz	1	5		Knock EP		1
		E.Pno 1		1				1	5	•		1					7			1		Vics EP	1	11 *	E.Pno 4		5		E.Pno 5	1	
	7	Harpsi 1 MM-Clav1	1	1	4		Cembalim MM-Clav2	1	5 3	\vdash	AD1600s1 SkitnCly	1	3 18	l.	AD1600s2 ClavStf1		3	H	Harpsi 2 Revinett	1		Harpsi 3 Clavecn1	1	3	Harpsi 4 E.P/Clav		18 11		Caffeine DX-Clv 1	1	
hromatic	9	Celesta1		1 3	31	0	Celesta2		32		Celesta3	1	5																		t
ercussion	10 11	Glocken1 MusicBx1	1	1 2	23 5	0	Glocken2	1	32		Glocken3	1	7	-	Glocken4	1	24			+	_		-			-		+		⊢	ł
		DX-Vibe1		1 2		N	MM-Vibe1	1	23		DX-Vibe2	1	23	F	DX-Vibe3	1	5		DX-Vibe4	1	7	BellVibe	1	23	LFO Vibe	1	2	ŀ	Vibetron	1	t
		DX-Mrmb1		1				1			DX-Mrmb2	1	7		DX-Mrmb3	1	7		MtalMrmb	1	6										1
	14 15	DX-Xylo1 Carillon	1	1	9		DX-Xylo2 DX-Bel 1	1	5 27		MM-Bell	1	27	-	MiniBell	1	5		DX-Bel 2	1	15	DX-Bel 3	1	5	DX-Bel 4	1	9		DX-Bel 5	1	₽
		DX-Dicm1		1		ľ	DX-Del 1		21		ww-pell	1	21	t	MILIDEI	1	5		DX-DBI 2	1	13	DA-Del 3	ľ	5	DX-Del 4	Ė	3		DX-Del 3	ľ	t
Organ	17	FullOrgn	1		32		DrwOrg 1	1	32	٠	DrwOrg 2		29		DrwOrg 3		29		JazOrg 1	1:		Farf Out	1	29 *	DrwOrg4		31		DrwOrg 5	1	3
		PrcOrg 1 RckOrg 1	1		29 · 3 ·			1	18 5	\vdash	PrcOrg 3 RckOrg 3		29 16	⊢	DxJazOr1 RckOrg 4		30 11	•		1		PrcOrg 5 RckOrg 6	1		PrcOrg 6 RckOrg 7		31 22	•	PrcOrg 7 RckOrg 8	1	
	20	DXChrch1	1	1	6	F	PipeOrg1	1	3		PipeOrg2	1	29		DXChrch2	1	6		PipeOrg3		6	PipeOrg4	1	5 *	PipeOrg5	1					t
		PufOrgn1		1	12 ·			1	28			1	12	ŀ		1	16		DX-Acrd5	1	3 *		-			-	-	+		⊢	ł
	22	DX-Acrd1 DX-Hmnc1	1	1	3	• 6	DX-Acrd2 DX-Hmnc2	1	3	•	DX-Acrd3 BuzzHarp		4	ŀ	DX-Acrd4 FM-Hmnc1	1			FM-Hmnc2	1	3 *		⊢			F		+		┢	t
		DX-TngAc		1																											1
Suitar	25 26	DX-AcGt1 DX-PkGt1		1 1			DX-AcGt2 DX-PkGt2	1	8 14		DX-AcGt3 DX-PkGt3	1	1	⊢		1	8	\vdash	Lute Gtr DX-PkGt5	1	14 8	DX-AcGt5 DX-PkGt6	1	16 14	Mrmb Gtr DX-PkGt7	1	12	+	Tite Gtr	1	1
		DX-JzGt1		1 1					17			1		ŀ			8		DATENDIS	1		DATE KOID	ľ	14	DAFERGU	Ė	3		The Gu	ľ	ť
	28	DX-CIGt1		1		0	DX-CIGt2		14		DX-CIGt3	1	4	F	DX-CIGt4	1	13	Г	DX-CIGt5	1		DX-CIGt6	1	17	DX-CIGt7	1	3		DX-CIGt8	1	ſ
	29 30	DX-MtGt1 DX-ODGt	1	1	9 14	ľ	DX-MtGt2	1	12		DX-MtGt3	1	17		DX-MtGt4	1	3	H	HevyGage	1	18		F			F		H		F	t
	31	Fuzz Gtr	1	1	1		DX-DsGt1		16		DX-DsGt2		14	Ē			16			1		DX-DsGt5	1	1						Ē	t
ass	33	DX-WdBa1		1 1			DX-WdBa2		17	Ľ		1		Ē	SmohBass	1	17	F	After 88	1		DX-WdBa4	1		DX-WdBa5		17		1	Ē	f
		DX-FgBa1 DX-PkBa1		1 1			DX-FgBa2 PickPluk		17 18	Η	HarmBass ChifBass	1	17 7	ŀ	NstyBass Plktrmbs		17 8	H		1		ClavBass MtalBass	1	10 4	DX-FgBa3 WireBass		17 10		Inorganc	1	t
	36	FrtisBa1	1	1 '	17	F	FrtIsBa2	1	18		FrtisBa3	1	12	t	FrtIsBa4	1	18		FrtIsBa5	1	3		Ĺ				Ē			Í	t
		RundWund DigiRos1		1 1				1		Ŀ			3	-			16	\square			3					P				F	ŧ
	38 39	DigiBas1 DX-SyBa1		1 · 1		·li	SuprBas1 DX-SyBa2	1	17 3	Η	DrhtBass DX-SyBa3		16 24	\vdash	Brainacs Cutmandu		7	\vdash	DigiBas2 DX-SyBa4	1		BassNovo	1	7.	DX-SyBa5	1	3	H	DX-SyBa6	1	t
	40	DX-Bass1	1	1 1	17	F	Remark	1	17		DX-Bass2	1	17	ŀ			17			1		Excite	1		DX-Bass4		18				ļ
trings	41 42	DX-VIn 1 DX-VIa 1	1		2		DX-Vin 2 DX-Via 2	1	2	L.	DX-VIn 3	1	2	L				μ		H	-		F			P				F	ŧ
		DX-Via 1 DX-Celo1		1					17	•	DX-Celo2	1	11	F	DX-Celo3	1	11	Ħ		H			F			۲		H		f	t
	46	DX-Pizz1	1	1	2	F	Pizz Str	1	5																	F				ľ	ļ
	47 48	LuteHarp DX-Tmpni		1 1		1	Syn Harp	1	3		OrchHarp	1	3	ŀ	Harp+Flt	1	3	Ľ		H	-					H		H		F	ŧ
nsemble	49	Mid Str1	1	1 1	15		Mid Str2		15		Brit Str	1	15	L	DX-Str 1	1	2		DX-Str 2	1		DX-Str 3	1	15	DX-Str 4	1	15		DX-Str 5	1	f
	50	WarmStr1		1 '			Low Str1		15		Low Str2	1			DX-Str10	1			DX-Str11		2	DX-Str12	1	15 *	DX-Str13	1					I
		DX-SySt1 DX-SySt6		1 1			Anna Str DX-SySt7	1	9				15 15	ŀ	Michelle MM-Str 1		15 17	H		1:		DX-SySt3 WarmStr4	1	25 15 *	DX-SySt4 HalOrch1	1	9 12	•	DX-AnSt1 HalOrch2	1	
	53	DX-Cho 1	1		5	• 0	DX-Cho 2	1	6				24		DX-Cho 4	1			DX-Cho 5		6	Trainiou 4	Ċ	10	Haloion	Ė	12		Halorenz	İ	t
		DX-Cho 6			11			1	7			1	29	·	MM-Vce 1	1				1	6 *	MM-Vce 3	1	6 *	Dbvoxfem	1	26	·	Lady Vox	1	ŀ
rass	57 58	DX-Trpt1 DX-Trb 1	1		18 ' 18 '	• C	DX-Trpt2 DX-Trb 2	1	18 22	-	DX-Trpt3 Mute Trb	1	18 7	ŀ	DX-Trpt4	1	18	ŀ	SlvTrmpt	1	18		⊢			۲	-	+		⊢	t
	59	DX-Tuba1		1	18	• [DX-Tuba2	1	18	٠																					İ
	61 62	DX-Hom DX-BrSc1	1	1	9 22		MelwHrn1 DX-BrSc2	1	2 22	·		1	3	ŀ			18		BlnchHrn TightBr2	1		AlpsHorn BlowBrss	1	15 * 9 *	VibraHrn BrssSect	1	17		WarmBrss		4
		CS80-Br1			23				22	•			2 22	⊢			2			1		DX-SBr 4	1	2 *	DX-SBr 5		2		DX-SBr 6	1	
	64	ChorsBrs	1	1	2		SyntiBrs		2		DX-SBr 7		18		SamplBrs	1	2		SinglBrs	1	22	ThickBrs	1	2	XyloBrss		29		OrchBrss	1	
eed	65 66	SprnoSax Alto Sax			10	:		_						⊢			-			+	-		-			۲	-	+		⊢	ł
	67	TenorSax			27	۰c	DX-Tsax	1	15	·		H		t			⊢	H		H	-		⊢			F		H		t	t
	69	Oboe 1	1	1	3	• (Oboe 2	1			Oboe 3	1	27																		1
	70	Eng.Horn Bassoon	1		4	•		_		-				⊢		-	-	\vdash		+	-		╞			۲	-	+		┝	ł
	72	VbrtClar	1		5	• 5	SlowClar	1	4		DX-Clar1	1	2	ŀ	DX-Clar2	1	15	·		+	-		┢			F		+		t	t
'ipe		Piccolo1		1		F		1	5	•																					I
		DX-Flt 1 Recordr1	1		16 5		DX-Flt 2 Recordr2	1	7			1	16 6		DX-Flt 4	1	5	·	DX-Fit 5	1	16 *	DX-Flt 6	1	16 *	DX-Flt 7	1	16		MtalFlut	1	ł
	76	DX-PnFI1	1	1	5	F	Forest99	1	2		Harvest	1	1																	Ē	t
	77	Fuhppps!			11	1	DX-Botle	1	15	Ľ	Quena	1	2	Ĺ		Ē	Ē	ſ		Ħ			Ĺ	H		P	F	H		ſ	f
		Whistle1 DX-Ocrn1	1		16	٠b	DX-Ocrn2	1	4	H	DX-Ocrn3	1	3	F			F	۲		H	-		F			F		H		f	t
ynth	81	DX-Squar	1	1	2	0	DX-SLd 1	1	5		DX-SLd 2	1	22				3			1		DX-SLd 4		18	DX-SLd 5		6		DX-SLd 6	1	
_ead	82 83	DXSyLd 1 CaliopL1		1 1			DXSyLd 2 CaliopL2	1	9 16		DXSyLd 3 PuffPipe		24 12	-		1	4		DXSyLd 4	1	2	DXSyLd 5	1	5 *	DXSyLd 6	1	1		DXSyLd 7	1	ľ
		BrsLead1		1				1	16		PumPipe BrsLead2		12	t	CaliopL3 BrsLead3		16 15		DXAtkLd	1	16		F			۲				t	t
	85	Au Campo	1	1	2	۰L	eadPhon	1	19		SweepLd	1	18				26									F				ſ	Į
		DX-VceLd Fifths 1		1 1			Siovanni Fifths 2	1		Η	SnglLine	1	22					H		H	-		H			H				F	ł
	88	LeadLine	1	1 '	18	E	BassLead	1	22	L			14	Ľ		1			FrtIsLd		4		Ľ							Ĺ	t
ynth Pad		HyperSqr Film Rod			5				14	Ц			9		MM-Prety	1				1		Str Tine BroulMorm		12	What Part	Ļ	25	Ļ		f	f
		Film Pad BritePad		1 1	15				15 12	•		1		•	FI.Cloud SyBr Pd3		5 15		Floating SyBr Pd4	1	19 *	BrsyWarm SyBr Pd5	1	15 * 4	WhstlPad SyBr Pd6		25 19		SyBr Pd7	1	t
	92	DX-ChPd1	1	1	15	• /	Anna Pad	1	2	٠	Whisper1	1	6	·																	Ι
		BowPad 1 DX-MtPd1	1	1	5			1	5 6			1		•			5		Glassy	1	11	GlssHarp	1	16	Ice Gixy	1	3	H	SpceTrip	1	ŧ
		DX-MtPd1 GrngePad			6 15			1		Η	миожер						19			H			F			۲				t	t
	96	SweepPd1	1	1	9	Ē	Evlution	1		·	Phasers	1	15	ŀ	FM-Grwth	1	17	Π								F				Г	ļ
ynth fects		FluvPush MtalGlkn	1	1	1	1	BellPluk	1	11	H	MtalDicm	1	27	F	MetalBox	1	11	H		+	-		H			H		\square		F	t
	100	PrdsGlok		1	5	E	Brassy	1	2		Electric	1	4	L	DX-Atms1		11		DX-Atms2	1	8					F				t	t
		DX-Brit1	1	1	5	1			6		SynBrite	1	3	ſ												F		П		ſ	t
	102	Fmilters WaterLog			11 16	-						H		H				H		+	-		H			H				F	ł
	104	DX-ScFi1	1	1	6	• [16				15		DX-ScFi3	1	15	ŀ	DX-Stars	1 3			Ľ							Ĺ	t
thnic	105	DX-Sitr1			8	1	DX-Sitr2	1	3			1	18		Xanu	1	4		EthrFour	1	5					F				Γ	ļ
		DX-Banjo Shamisn1			8		Shamisn2	1	22		Shamisn3	1	15	F				H		H	-		H			H		H		F	ŧ
	108	DX-Koto		1		۲	Koto+Flt		22		Gnamistia	Ľ.	10	t				F		H			F			F				t	f
	109	DX-Kimb1	1	1	30				18		DX-KImb3	1	16	Г																Г	ļ
		DX-BgPip DX-Fidle		1	20	1						۲		-				H		+	-		H			H				F	ł
		ScchTone	1	1 1	17	t												F					Ľ							t	t
ercussive	113	HandBel1			5				5		TrcrBell	1	4	ſ						1						F		П		ſ	ţ
		DX-Aggo1 StiDrum1		1	8	-	DX-Aggo2 StIDrum2		15 13		Jamaica	1	16	F	SteelCan	1	1	H		+	-		H			H				F	ŧ
		Block			18	ľ		÷.			Dummered	Ľ,			Licenselli	Ċ	Ľ	H		H			Ē			F	Ľ			t	f
	117	Janpany	I1	۱Ŀ	16	19	SoftHead	1	15	•				1									1			17				ſ	ſ

NOTE : Empty areas of the columns produce the same sounds as the bank 0 of the XG tone generator. E : Element number A : Algorithm number B : EG Bias (voices with this effect are marked "*")

Bank Selec	t MSB		99			99)			99				99				99			99			9	19			99			
Bank Selec			0			71				72				73				74			75			7	6			77			
Instrument Group	Pgm # (1-128)		I		A B		E	A	A B		Е	А	В		E	A	в		Е	A B		E	AE	3	E	E	A	3	E	A	1
Piano	1	FrtePno1		1	9		-	-	_											_					_	_	_	_		F	
	2	BritPno1 DXCP-70		1		RatioDob	1	6	5				t		┝	+	+		+	+		-			+	+	+		+	۲	۲
	4	DX-Rgtim		1 1	15	SftEPno1	1		5	SftEPno2		5		GlockPno	1																
	5	DX-Road1 E.Pno 1	_	12	28	EP 1970 FulTine1	1		1 * 5		1	12 5	+	PrcEPno1 E.Pno 6		5	+	ModEPno1 E.Pno 7	1	5 *	FulTine2	1	5	E.Pno 8	-	1	6	E.Pno 9	1	5	
	7	Harpsi 1		1	5	HarpsiWr	1		2	Harpsi 5		5		E.PIIO 6	Ľ	5	t	L.FIIO7	Ľ	5	T UTTITEZ	Ė	5	E.FII0 0	ť			L.FIIO 8	Ľ	F	H
	8	MM-Clav1		1		ClavComp	1	15	5	DX-Clv 2	1	3	·	DX-Clv 3	1	18		ClavExcl	1 1	17	BritClv1	1	18	BritClv2	1	1	4	* DX-Clv 4	1	3	,
Chromatic Percussion	9 10	Celesta1 Glocken1		13			+	+	+				⊢		╞	+	┝		\mathbb{H}	-		H			+	+	+		┝	⊢	-
1 0100000011	11	MusicBx1		1			+	t	+		H		t		F	+	+		H	-					+	+	+		+	t	٦
	12	DX-Vibe1		1 2	27																										
	13 14	DX-Mrmb1 DX-Xylo1		1			+	+	+		-		┝		┝	+	┝		+	+		H			+	+	+		┝	⊢	4
	15	Carillon		1	9	DX-Bel 6	1	Ę	5	TmplBel1	1	5	Г	TmplBel2	1	11		TmplBel3	1 1	11											
	16	DX-Dicm1		1 1																	0.0.40	Ļ									
Organ	17	FullOrgn PrcOrg 1	-	1	29 *	DrwOrg 6 PrcOrg 8		29 31				29 32		DrwOrg 8 PrcOrg10	1	32	ŀ	DrwOrg 9 PrcOrg11	12	31 *	DrwOrg10 PrcOrg12	1	24	DrwOrg11 PrcOrg13	1	1 3	32 22	* DrwOrg12 * PrcOrg14	1	25 16	H
	19	RckOrg 1		1	3 *	RckOrg 9		22		RckOrg10	1	32	·	RckOrg11						29 *		1	22								
	20	DXChrch1 PufOrgn1	_	1	6		+	+	-				┝		-	+	+		\vdash	-		⊢			+	+	_		+	⊢	_
	21	DX-Acrd1			3 *		+	+					⊢		⊢	+	⊢		\vdash	-		F			+	+	+		⊢	۲	-
	23	DX-Hmnc1		1	3 *																										
Guitar	24 25	DX-TngAc DX-AcGt1	_	1			+	+	-				╞		-	+	+		\vdash	_		⊢			+	+	_		+	⊢	_
Guitar		DX-AcGI1 DX-PkGt1		1 1		Gtr Box	1	15	5	LongNail	1	16	E	Firenze	1	3	E	Folknik	1 1	18	RytmPluk	1	17		+	+	+		┢	t	۲
	27	DX-JzGt1		1 1	18		T	T							Ĺ	Ť										1			Г	Г	j
	28 29	DX-CIGt1 DX-MtGt1		1			+	F	+		P		H		F	-	H		H	-		F	\square		-	+	-		H	F	
		DX-MtGt1 DX-ODGt		1 1	14		+	t	+		۲		t		F	F	F		H			Ē	\square		+	+			F	F	٢
	31	Fuzz Gtr		1	1		T						ľ		Ĺ							ſ				1				F	
Bass	33 34	DX-WdBa DX-FgBa1	1	11	17		+	t	+		H		+			-	F		H	-		F	\square		+	+	-		F	F	H
	34	DX-PgBa1 DX-PkBa1	_†	1 1			t	t			٢		t		F	F			H			Ć								F	f
	36	FrtisBa1		1 1	17		1	T					ſ									Ē				1				F	
	37	RundWuni DigiBas1	1	1 1			+	F	+		H		+			-	-		H	-		F	\square		+	+	-		-	F	ļ
	39	DX-SyBa1		1	16 *	DX-SyBa7	1	17	7	DX-SyBa8	1	5	f		F		F		H			ŕ							F	t	j
	40	DX-Bass1		1 1	17		Ť	Ĺ					t									Ē								Г	j
Strings	41	DX-Vin 1		1			+	F	+		P		F		F	F	F		H	-		F	H		+	+	-		F	F	ļ
	42	DX-Vla 1 DX-Celo1		11	2		+	t	t		۲		t		F	F	F		H	-		Ē	H		+	+			F	F	f
	46	DX-Pizz1		1	2		1	1					Ĺ									É									Í
	47	LuteHarp DX-Tmpni	_	11	14		+	+	_				╞			-	+		\square	_		H			+	+	_		+	⊢	_
Ensemble	40	Mid Str1		11		DX-Str 6	1	2	2	DX-Str 7	1	2	t	DX-Str 8	1	22	F		+	+		F			+	+	+		┢	۲	T
	50	WarmStr1		1 1	15																										
	51 52	DX-SySt1		1 1		DX-AnSt2 Maxi Str		2	2					SolinePf		2	-	Soft Bow ST.Machn	1		GntlMind	1		Gypsy	1	1 '	18	•	+	╞	_
	52	DX-SySt6 DX-Cho 1		1		Maxi Str	1	2	2	SilkHall	1	5	t	Aftrnoon	1	2	t	ST.Machn	1	3	MoterDrv	1	2		+	+	+		┝	⊢	-
	55	DX-Cho 6		1	11 *	SpaceVox	1	26	5	Syn Vox	1	25	·				E												E		
Brass	57	DX-Trpt1		1			-	-											\square			F			-	-	_	_		F	
	58 59	DX-Trb 1 DX-Tuba1		1			+	+	-		-		┝		⊢	+	┝		\vdash	-		H			+	+	+		┝	⊢	4
	61	DX-Horn		1	9																										
		DX-BrSc1	_	1 2	22	Horn Ens	1	2	0 .	Fanfare	1	18						-				F.									
	63 64	CS80-Br1 ChorsBrs		1		MM-Brss1 Ensemble	1	18				18 15		MM-Brss3	1	17		Funkrhyt	1	3 .	PowerDrv	1	23	RahlBrss	1	1 3	23	* UltraDrv	1	2	4
Reed	65	SprnoSax		1	10 *		ľ		-	gastri	Ċ								H												
	66 67	Alto Sax	_	1	18 * 27 *		+	+	_				+			-	-		\square	_		⊢			+	+	_		-	┝	_
	69	TenorSax Oboe 1			3 *		+	+			H		┢		⊢	+	┝		+	-		F			+	+	+	-	┝	⊢	۲
	70	Eng.Horn		1	4 *																										
	71	Bassoon VbrtClar		1	2 5 *		+	+	-				┝		-	+	+		\vdash	-		⊢			+	+	_		+	⊢	_
Pipe	73	Piccolo1		1	5		+	t	+				t		⊢	+	t		\vdash	-		-			+	+	+	-	t	t	۲
	74	DX-Fit 1		1	16 *	AirBlowr	1	1	6 *																						
	75 76	Recordr1 DX-PnFI1		1	5		+	╀	-				⊢		⊢	+	╞		\vdash	-		H			+	+	+		┝	⊢	_
	77	Fuhppps!		1			+	+	+		H		t		F	+	+		H	-					+	+	+		+	t	T
	79	Whistle1	1	1	16 *		T	Г	T				F		ſ	Г	Г		П	T		F			Ţ	Ţ			Г	F	1
Synth	80	DX-Ocm1 DX-Squar		1			+	F	+		۲		┢		F	F	H		H	-		F	\square		+	+	-		H	F	ł
Lead	82	DXSyLd 1		11	18	Vibratrn	1	4	1	DXSyLd 8	1	22	L	Winwood	1	2	Ľ					Ć				1			L	F	j
	83	CaliopL1 Brsl ead1		1 1	16		F	F	Ŧ	_	Ē		F		Ĺ	F	F		H	-		f	H		Ţ	Ţ	1		F	F	ĺ
	84 85	BrsLead1 Au Campo		1	2 *	_	+	t	+		۲		+		F	-	F		H	-		F	\square		+	+	-		F	F	f
	86	DX-VceLd		1 1	18		1	1					Ĺ				Ľ					Ē							Ľ	F	Í
	87 88	Fifths 1		1			+	Ŧ	+		P		F		Ľ	F	F		H	-		F	НĒ		+	+	-		F	F	ĺ
Synth Pad	88	LeadLine HyperSqr		11			+	t	+		۲		t		F	F	F		H			Ē	\square		+	+			F	F	f
	90	Film Pad		1 1	16		T	T			Í		ſ									Ē		-		1			T	F	ĺ
		BritePad DX-ChPd1	+	11	15 15 *	ClaviPad	1		8		1	4	┝	FnerThng		11			1		WhaserPd	1	15	BackSuir	1	1	2	PsrSweep	1	F	8
	92	BowPad 1		1			t	t	t		۲		t		F		F		H			Ē			+				F	t	j
	94	DX-MtPd1		1	6 *		1	1	1				L									Ē								F	ĺ
	95 96	GrngePad SweepPd1		1 1			+	F	+		P		F		F	F	F		H	-		F	H		+	+	-		F	F	
Synth	96	FluvPush			1		+	t	+		۲		t		F	F	F		H			Ē			+				F	F	Ì
ffects	99	MtalGlkn		1	5		1	T					t									É									Í
	100 101	PrdsGlok		1			ſ	ſ	Ŧ		ľ		ſ		Ē	F	F		Ħ	-		f	H		T	Ţ	1		F	F	Í
		DX-Brit1 Fmilters	+	1	11 *		+	t	+		۲		t		F	F	F		H	+		F	H		+	+	-		F	F	į
	103	WaterLog		1	16 *		1	t	1				t		Ē	L	L					Ć							L	F	Ĵ
	104	DX-ScFi1	Ţ	1	6 *		F	F	Ŧ				F		Ĩ	F	F		цŢ	T		ſ	цŢ		T	Ţ	1		F	F	Í
Ethnic		DX-Sitr1 DX-Banjo		1			+	t	+		۲		┢		F	-	H		H	-		F	\square		+	+	-		H	F	ļ
	107	Shamisn1		1 1	16		t	t			۲		t		F	F			H			Ć								F	j
	108	DX-Koto		1	2		T	Г	T								Γ					Ē			T	Ţ			F	F	1
		DX-Klmb1 DX-BgPip		1			+	F	+		H		+			-	F		H	-		F	\square		+	+	-		F	F	1
		DX-BgPip DX-Fidle		1	2		+	t	+		۲		t		F	F	F		H	+		Ē	\square		+	+			F	F	į
	112	ScchTone		1 1	17		T	T					ſ									Ē				1			F	Г	ĺ
Percussive	113	HandBel1	-	1			+	Ŧ	+		P		F		Ē	F	F		H			F	H		1	+	_		F	F	ľ
	114	DX-Aggo1 StIDrum1	+	1	8	_	+	t	+		۲		+		F	-	F		H	-		F	\square		+	+	-		F	F	4
	116	Block		1 1	18		1	L							Ĺ							Ē									Í
	1 117	Janpany MM-SDr 1		1 1	16 18 *		ſ	F	_				F		Ĺ	Ē						í	L T		T	ſ			Ľ	ſ	ſ

 $\ensuremath{\mathsf{NOTE}}$: Empty areas of the columns produce the same sounds as the bank 0 of the XG tone generator.

E : Element number A : Algorithm number B : EG Bias (voices with this effect are marked "*")
Appendix

	Bank Select MSB		99		99			99				99					
Bank Select		0			_	78			_	79				80			
Instrument Group	Pgm # (1-128)		Е	А	в		E	А	в		Е	А	в		Е	Α	1
Piano	1	FrtePno1 BritPno1	1	9 7													ł
	3	DXCP-70	1	4			-								H	-	t
	4	DX-Rgtim	1	15													1
	5	DX-Road1 E.Pno 1	1	28 5	_	E.Pno10	1	5			_					-	ł
	7	Harpsi 1	1	5		L.FII010	Ľ	5							H		t
	8	MM-Clav1	1	4		DX-Clv 5	1	16									Į
Chromatic Percussion	9	Celesta1 Glocken1	1	31 23			-									-	ł
	11	MusicBx1	1	5													t
	12	DX-Vibe1 DX-Mrmb1	1	27 7													I
	14	DX-MIND1 DX-Xylo1	1	9			-		-				-		H	-	t
	15	Carillon	1	9													t
Organ	16 17	DX-Dicm1 FullOrgn	1	10 32			-									-	ł
organ	18	PrcOrg 1	1	29	•	SynOrg 1	1	28							H	-	t
	19	RckOrg 1	1	3	٠								_				Į
	20 21	DXChrch1 PufOrgn1	1	6 12	•		-									-	ł
	22	DX-Acrd1	1	3	٠												t
	23	DX-Hmnc1	1	3	٠												Į
Guitar	24 25	DX-TngAc DX-AcGt1	1	3 14			-		-						H	-	t
	26	DX-PkGt1	1	14			E		E								t
	27	DX-JzGt1	1	18	Ē		Í		Í				Í				ĺ
	28 29	DX-CIGt1 DX-MtGt1	1	9 9	⊢		F		F						H		t
	30	DX-ODGt	1	14													ļ
Bass	31	Fuzz Gtr	1	1 17	-		F		F						P		ļ
ua35	33 34	DX-WdBa1 DX-FgBa1	1	17 16	-		F		F						۲		f
	35	DX-PkBa1	1	16			Í		Í								ţ
	36 37	FrtIsBa1 RundWund	1	17 18	L		Ĺ		F						Í	Ē	ļ
	37	DigiBas1	1	18 16	⊢		F		F						H		t
	39	DX-SyBa1	1	16	•												1
Strings	40 41	DX-Bass1 DX-Vin 1	1	17			-		-								ł
Sungs	41	DX-VIII 1 DX-VIa 1	1	15			-		-						H	-	t
	43	DX-Celo1	1	2													I
	46 47	DX-Pizz1 LuteHarp	1	2 14	_		-		-		_		_			-	ł
	48	DX-Tmpni	1	16											H	-	t
Ensemble	49	Mid Str1	1	15													Į
	50 51	WarmStr1 DX-SySt1	1	15 15			-									-	ł
	52	DX-SySt6	1	2			-								H	-	t
	53	DX-Cho 1	1	5	•												1
Brass	55 57	DX-Cho 6 DX-Trpt1	1	11 18	•		-		-							-	ł
Diass	58	DX-Trb 1	1	18	•		-								H	-	t
	59	DX-Tuba1	1	18	٠												I
	61 62	DX-Horn DX-BrSc1	1	9 22			-		-				_		\vdash	-	ł
	63	CS80-Br1	1	23	•	Ana Poly	1	22		Court	1	22		Juice	1	20	Ī
	64	ChorsBrs	1	2													I
Reed	65 66	SprnoSax Alto Sax	1	10 18	•		-				-				H	-	t
	67	TenorSax	1	27	٠												1
	69 70	Oboe 1	1	3	•												ł
	71	Eng.Horn Bassoon	1	2			-					-	-		H	-	t
	72	VbrtClar	1	5	٠												1
Pipe	73	Piccolo1 DX-Flt 1	1	5 16												-	ł
	75	Recordr1	1	5			-								H	-	t
	76	DX-PnFI1	1	5													Į
	77 79	Fuhppps! Whistle1	1	11	٠		-		-		-				e ti li		đ
	79 80			16													ŧ
Synth		DX-Ocm1	1	16 14	•												ļ
	81	DX-Squar	1	16 14 2	•												ļ
Lead	82	DX-Squar DXSyLd 1	1 1 1	16 14 2 18	•												
Lead	82 83 84	DX-Squar DXSyLd 1 CaliopL1 BrsLead1	1 1 1 1	16 14 2 18 16 2	•]
Lead	82 83 84 85	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo	1 1 1 1 1	16 14 2 18 16 2 2	•												
Lead	82 83 84	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd	1 1 1 1	16 14 2 18 16 2	•												
	82 83 84 85 86 87 88	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine	1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18	•												
	82 83 84 85 86 87 88 88 88	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr	1 1 1 1 1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18 5	•												
	82 83 84 85 86 87 88	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine	1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18 3 18 5 16	•												
	82 83 84 85 86 87 88 89 90 91 92	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18 5 16 15 15	•												
	82 83 84 85 86 87 88 89 90 91 92 93	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18 3 18 5 16 15 15 5	*												
	82 83 84 85 86 87 88 89 90 91 92	DX-Squar DX-SyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1 DX-MtPd1 GrmgePad	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18 3 18 5 16 15 5 6													
Synth Pad	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1 DX-MtPd1 GrngePad SweepPd1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 14 2 18 16 2 2 18 3 18 5 16 15 5 6 15 9													
Synth Pad	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 98	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1 DX-MtPd1 GrngePad SweepPd1 FluvPush	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 14 2 18 16 2 18 3 18 5 16 15 15 6 15 9 1 1	•												
Synth Pad	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 98 99 100	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine HyperSqr Film Pad DX-ChPd1 BowPad 1 DX-MPd1 GrigePad SweepPd1 FluvPush MtalGlkn PrdsGlok	$ \begin{array}{c} 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ $	16 14 18 16 2 18 3 18 5 16 15 5 6 15 9 1 5 5	•												
Synth Pad	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 98 99 100 101	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine BritePad DX-ChPd1 BritePad DX-ChPd1 BrowPad 1 DX-MPd11 GringePad SweepPd1 FluvPush MtalGikn PrdsGlok DX-Brit1	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	16 14 2 18 16 2 18 5 16 15 5 6 15 9 1 5 5 5	•												
Synth Pad	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 98 99 100 101 102	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VeeLd Fiths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 DX-ChPd1 DX-ChPd1 SweepPd1 FluvPush MtalGikn DX-Brit1 Finiters	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	16 14 14 2 18 16 2 2 18 3 18 5 16 15 15 6 15 5 5 5 11 5	•												
Synth Pad Synth	82 83 84 85 86 87 88 89 90 91 92 93 94 92 93 94 95 96 98 99 100 101 102 103 104	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VceLd Fifths 1 LeadLine BritePad DX-ChPd1 BritePad DX-ChPd1 BrowPad 1 DX-MPd11 GringePad SweepPd1 FluvPush MtalGikn PrdsGlok DX-Brit1	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	16 14 2 18 16 2 18 3 18 5 16 15 15 5 6 15 9 1 5 5 11 16 6 6	•												
Synth Pad Synth	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 99 99 100 101 102 103 104 105	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VoeLd Fiths 1 LeadLine HyperSqr Fiths 1 LeadLine HyperSqr Fiths 1 DX-ChPd1 DX-ChP	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	16 14 2 18 16 2 18 3 18 5 16 15 15 5 6 15 5 5 11 16 6 8	•												
Synth Pad Synth Effects	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 98 99 100 101 102 103 104	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VockLd Fifths 1 LeadLine LeadLine LeadLine LeadLine HyperSqr Film Pad DX-ChPd1 BowPad 1 DX-ChPd1 BowPad 1 DX-ChPd1 BowPad 1 DX-ChPd1 BowPad 1 DX-ChPd1 BowPad 1 DX-ChPd1 DX-MIPd1 GimgePad MtalGikn PrdsGlok DX-Brit Fmilters WaterLog DX-Strift DX-Strift DX-Strift	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	16 14 2 18 16 2 2 18 3 18 5 16 15 5 6 15 5 6 15 5 5 11 16 6 8 8 8	•												
Synth Pad Synth Effects	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 99 99 100 101 102 103 104 105	DX-Squar DXSyLd 1 CaliopL1 BrsLead1 Au Campo DX-VoeLd Fiths 1 LeadLine HyperSqr Fiths 1 LeadLine HyperSqr Fiths 1 DX-ChPd1 DX-ChP	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	16 14 2 18 16 2 18 3 18 5 16 15 15 5 6 15 5 5 11 16 6 8	•												
Synth Pad Synth	82 83 84 85 86 87 88 88 89 90 91 92 93 94 95 96 98 99 90 101 102 103 104 105 106 107 108	DX-Squar DXSyLd 11 CallopL1 BrsLead1 Au Campo Au Campo DX-VecLd Fifths 1 LeadLine HyperSar Film Pad BritePad DX-ChPd1 BowPad 1 DX-MPd1 SweepPd1 FilmPad BritePad SweepPd1 FilmPad BritePad NtaGlion PrdsSlok DX-Sirt1 DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit DX-Skrit	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	$\begin{array}{c} 16\\ 14\\ 2\\ 18\\ 16\\ 2\\ 2\\ 18\\ 3\\ 18\\ 5\\ 16\\ 15\\ 5\\ 6\\ 15\\ 9\\ 1\\ 5\\ 5\\ 5\\ 11\\ 16\\ 6\\ 8\\ 8\\ 16\\ 2\\ 30\\ \end{array}$	•												
Synth Pad Synth Effects	82 83 84 85 86 87 88 88 89 90 91 92 93 94 95 96 99 90 100 101 102 103 104 105 106 107 108 100	DX-Squar DXSyLd 11 CaliopL1 BrsLead1 Au Campo DX-VecLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1 DX-MtPd1 DX-MtPd1 DX-MtPd1 DX-MtPd1 DX-MtPd1 DX-MtPd1 DX-Str1 Finiters WaterLog DX-Str1	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	$\begin{array}{c} 16\\ 14\\ 2\\ 18\\ 16\\ 2\\ 2\\ 18\\ 3\\ 18\\ 5\\ 16\\ 15\\ 5\\ 6\\ 15\\ 5\\ 5\\ 11\\ 16\\ 6\\ 8\\ 8\\ 16\\ 2\\ 30\\ 20\\ \end{array}$	•												
Synth Pad Synth Effects	82 83 84 85 86 87 88 88 89 90 91 92 93 94 95 96 98 99 100 101 102 103 104 105 106 107 108 109 111	DX-Squar DXSyLd 11 CallopL1 BraLad11 BraLad11 Au Campo DX-VoeLd Fifths 1 LeadLine HyperSqr Film Pad BritePad BraNPd1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 DX-Sqr HurPush TraisGlok DX-Sqr HurPush DX-Sqr	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	$\begin{array}{c} 16\\ 14\\ 2\\ 18\\ 16\\ 2\\ 2\\ 18\\ 3\\ 18\\ 5\\ 16\\ 15\\ 5\\ 6\\ 15\\ 9\\ 1\\ 5\\ 5\\ 5\\ 11\\ 16\\ 6\\ 8\\ 8\\ 16\\ 2\\ 30\\ \end{array}$	•												
Synth Pad Synth Effects Ethnic	82 83 84 85 86 87 88 89 90 91 92 93 94 95 100 101 102 103 104 105 106 107 108 109 110 111 111	DX-Squar DXSyLd 1 CaliopL1 BerLad1 Au Campo DX-VoeLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 DX-MPd1 DX-MPd1 DX-Strit D	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	$\begin{array}{c} 16\\ 14\\ 2\\ 18\\ 3\\ 16\\ 2\\ 2\\ 18\\ 3\\ 18\\ 5\\ 16\\ 15\\ 5\\ 5\\ 5\\ 11\\ 16\\ 6\\ 8\\ 8\\ 16\\ 2\\ 30\\ 20\\ 2\\ 17\\ 5\\ \end{array}$	•												
Synth Pad Synth Effects Ethnic	82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 98 99 99 100 101 102 103 104 105 106 107 108 100 111 112 113	DX-Squar DXSyLd 1 CaliopL1 Erst.edd1 Au Campo DX-VoeLd Fiths 1 LeadLine HyperSar Fiths 1 LeadLine HyperSar Fiths 1 End Pad BrianPad BrianPad BrianPad DX-ChPd1 Box/Pad 1 DX-ChPd1 Box/Pad 1 DX-ChPd1 Box/Pad 3 SweepPd1 FlurPush MtalGkn PrdsGlok DX-Brit DX-SBr1 DX-SBr1 DX-SBr1 DX-SBr1 DX-SBr1 DX-SBr1 DX-Kagp1 DX-Kagb1 DX	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	$\begin{array}{c} 16\\ 14\\ 2\\ 18\\ 3\\ 16\\ 2\\ 2\\ 18\\ 3\\ 18\\ 5\\ 16\\ 15\\ 5\\ 6\\ 15\\ 9\\ 1\\ 5\\ 5\\ 5\\ 11\\ 16\\ 6\\ 8\\ 8\\ 16\\ 2\\ 30\\ 20\\ 2\\ 17\\ 5\\ 8\\ \end{array}$	•												
Synth Pad Synth Effects Ethnic	82 83 84 85 86 87 88 89 90 91 92 93 94 95 100 101 102 103 104 105 106 107 108 109 110 111 111	DX-Squar DXSyLd 1 CaliopL1 BerLad1 Au Campo DX-VoeLd Fifths 1 LeadLine HyperSqr Film Pad BritePad DX-ChPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 BowPad 1 DX-MPd1 DX-MPd1 DX-MPd1 DX-Strit D	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $	$\begin{array}{c} 16\\ 14\\ 2\\ 18\\ 3\\ 16\\ 2\\ 2\\ 18\\ 3\\ 18\\ 5\\ 16\\ 15\\ 5\\ 5\\ 5\\ 11\\ 16\\ 6\\ 8\\ 8\\ 16\\ 2\\ 30\\ 20\\ 2\\ 17\\ 5\\ \end{array}$	•												

Custom Voices

Bank Selec	t MSB	35				
Bank Selec	t LSB	0				
Instrument Group	Pgm # (1-128)		Е	А	в	
Custom	1	BRASS 1	1	22		
	2	BRASS 2	1	22	F	
	3	BRASS 3	1	18		
	4	STRINGS1	1	2		
	5	STRINGS2	1	2		
	6	STRINGS3	1	15	-	
	7	ORCHESTR PIANO 1	1	2	⊢	
	9	PIANO 2	1	18	-	
	10	PIANO 3	1	3	⊢	
	11	E.PIANO1	1	5	F	
	12	GUITAR 1	1	8	٠	
	13	GUITAR 2	1	16		
	14	SYN-LEA1	1	18		
	15	BASS 1	1	16		
	16	BASS 2	1	17	-	
	17	E.ORGAN1 PIPES 1		32	-	
	18 19	HARPSIC1	1	19 5	-	
	20	CLAV 1	1	3	⊢	
	21	VIBE 1		23	-	
	22	MARIMBA	1	7	F	
	23	кото	1	2	Γ	
	24	FLUTE 1	1	16	٠	
	25	ORCH-CHI	1	5		
	26	TUB BELL	1	5		
	27	STEEL DR		15	-	
	28 29	TIMPANI REFS WHI	1	16 18	⊢	
	30	VOICE 1	1	7		
	31	TRAIN	1	5	ŀ	
	32	TAKE OFF		10	⊢	
	33	PIANO 4	-	18		
	34	PIANO 5	1	3		
	35	E.PIANO2	1	12		
	36	E.PIANO3	1	5		
	37	E.PIANO4	1	5		
	38	PIANO 5T	1			
	39 40	CELESTE TOY PIAN	1	31 30		
	40	HARPSIC2	1	30	⊢	
	42	HARPSIC3	1	3	-	
	43	CLAV 2	1	4	F	
	44	CLAV 3	1	4		
	45	E.ORGAN2	1	29		
	46	E.ORGAN3	1	29	<u> </u>	
	47	E.ORGAN4	1	5	-	
	48	E.ORGAN5	1	29	-	
	49 50	PIPES 2 PIPES 3	1	3 25	-	
	50	PIPES 3 PIPES 4	1	6	-	
	51	CALIOPE	1	ь 16	\vdash	
	53	ACCORDIO	1	3	-	
	54	SITAR	1	8		
	55	GUITAR 3	1	14		
	56	GUITAR 4	1	14		
	57	GUITAR 5	1	14	Γ	
	58	GUITAR 6	1	3	<u> </u>	
	59	LUTE	1	14		
	60	BANJO	1	8		
	61	HARP 1 HARP 2	1	3	•	
	62 63	HARP 2 BASS 3	1	3	•	
	63	DH33 3	11	17	L	

NOTE : Empty areas of the columns produce the same sounds as the bank 0 of the XG tone generator. E : Element number A : Algorithm number B : EG Bias (voices with this effect are marked "*")

Performance List

No. Name Type Notes 1 EP Layer 1 FM + 1 AVM FM electronic piano layer sounc layer. 2 Doctor DX 1 FM + 1 AVM FM Electronic piano with a brigl oscillators. For use in performa 3 Golden Wires 1 FM + 1 AWM FM tubulars. For use in performa 4 SuperConga 1 FM + 1 AWM FM tubulars bells. Velocity chang obtained with FM is added with velocity cross fade. 5 Tubular 1 FM + 1 AWM FM tubulars bells. Velocity chang obtained with Am echo effect 6 New Koto 1 FM + 1 AWM Koto sound with an echo effect 7 Cello Edge 1 FM + 1 AWM Cello rich in expressiveness. bow sound is expressed with F 9 TX Bass 1 FM + 1 AWM A plastic clicking sound is add clavier. 10 Bachsichord 1 FM + 1 AWM Haeavy bass sound with an expression and AWM's realistic sound with AlW's realistic 11 Tha's FM 1 FM + 1 AWM A bright, FM-like clavier string so of metallic overtones 12 3D Rodes 1 FM + 1 AWM A bright, FM-like clavier string sound. 14 Snooper Bass 1 FM 1 AWM <th>It, sharp edge. ectronic piano nce. ga, rich in ex- ga, rich in ex- ga, rich in ex- gapplied. he edge of the M, the natural ed to a typical ed to a typical develocity re- crisp keyboard sound. ely click sound and attack and nat's good for a discordance creases. Good in expressive crisply played</th>	It, sharp edge. ectronic piano nce. ga, rich in ex- ga, rich in ex- ga, rich in ex- gapplied. he edge of the M, the natural ed to a typical ed to a typical develocity re- crisp keyboard sound. ely click sound and attack and nat's good for a discordance creases. Good in expressive crisply played
Iayer. 2 Doctor DX 1 FM + 1 AWM FM Electronic piano with a bright oscillators. For use in performant obtained with FM is added with velocity cross fade. 4 SuperConga 1 FM The percussion sound of a corpressiveness. 5 Tubular 1 FM + 1 AWM FM tubular bells. Velocity change obtained with FM is added with velocity cross fade. 6 New Koto 1 FM TM FM tubular bells. Velocity change obtained with FM is added with velocity cross fade. 7 Cello Edge 1 FM + 1 AWM FM tubular bells. Velocity change obtained with FM is added with velocity cross fade. 8 Plasticlav 1 FM + 1 AWM Cello rich in expressiveness. T bow sound is expressed with FM callo sound with AWM. 9 TX Bass 1 FM + 1 AWM A heavy bass sound with got callo carbone with FM's expression and AWM's realistic out is expression and AWM's realistic 10 Bachsichord 1 FM + 1 AWM A hard electronic piano with a liv and phaser effect added. 11 That's FM 1 FM + 1 AWM A hard electronic piano with a liv expression and AWM's realistic sound. 12 3D Rodes 1 FM + 1 AWM A hard electronic piano with a liv and phaser effect added. 13 Mr. Clav	It, sharp edge. ectronic piano nce. ga, rich in ex- ga, rich in ex- ga, rich in ex- gapplied. he edge of the M, the natural ed to a typical ed to a typical develocity re- crisp keyboard sound. ely click sound and attack and nat's good for a discordance creases. Good in expressive crisply played
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24 Perkethnic 1 FM + 1 AWM Ethnic drum. Noise is added in locity. 25 Cembalom 1 FM + 1 AWM Bright, sparkling FM cembalon DK type EG.	
25 Cembalom 1 FM + 1 AWM Bright, sparkling FM cembalon DK type EG.	
DK type EG.	relation to ve-
26 Smackabass 1 FM Heavy FM smack bass with dis	(dulcimer)with
	tortion.
27 ClockStrikz1 1 FM + 1 AWM "Big Ben" type bell sound, like	X802 sound.
28 DoubleGlock 1 FM + 1 AWM Dual voice glockenspiel using F	
29 Stage 73 1 FM + 1 AWM Electric piano with a compressi dulates as velocity gets strong	or applied. Un-
30 HandBells 1 FM + 1 AWM FM handbells with realistic AWM	effects added.
31 Xylophone 1 FM + 1 AWM Very natural xylophone.	
32 Marimboid 1 FM + 1 AWM A realistic marimba	
33 Vivaldi 1 FM + 2 AWM Violin created with FM and AW used for solo or ensemble. High ness of FM and the realism of J	ights the crisp-
34 Industrial 1 FM + 1 AWM Industrial bass with a good cris in the attack.	
35 2 FD 1 FM + 1 AWM FM sound that layers bell and el like a DX7II FD.	ectronic piano,
36 Cmprsd Strat 1 FM + 1 AWM Lively electric guitar sound comb ness of FM with the realism of	
37 Uprighteous 1 FM + 1 AWM Amplified upright bass with FM feeling of strings being hit.	
38 Chackawacka 1 FM + 1 AWM Percussion sound heard in Chi the Chinese New Year. Discords a metallic feeling and string att increases.	ant sounds add
39 Woodknocker 1 FM + 1 AWM FM sound with overtones that feeling, like a cross between a v bass strings.	give a woody
40 Temple Gongs 1 FM + 1 AWM FM gong. If played lightly, it sou hit lightly with a rubber mallet. I makes a metallic sound like bru of the gong.	ood drum and
41 Kundoon 1 FM + 3 AWM Split sound. The right side of sounds like gongs/wind bells pla the left like a dulcimer.	nds like a gong lolding the key
42 GS1-ness 1 FM + 1 AWM Strong metallic comp pad so Yamaha's GS1 with deep chorn	nds like a gong lolding the key shing the back the keyboard yed with a bow,

43	Ice Breath	1 FM + 1 AWM	You can bear the breath counds in this flute
			You can hear the breath sounds in this flute that has something of a VL feeling to it.
44	Bronze Lead	1 FM + 1 AWM	Monotone metallic lead/solo sound.
45	Monster Pad	1 FM + 1 AWM	With a dramatic sound just like a movie soundtrack, this pad really catches the flavor of FM.
46	Aluminum	1 FM + 1 AWM	Strong pad with chiff (organ pipe noise) added with metallic overtones.
47	Bite-a-Synth	1 FM + 1 AWM	Really crisp, metallic FM oscillator sound. Good for performance or pad use.
48	Tinezzz	1 FM + 2 AWM	DX piano layered with a nicely ringing pad and with chorus applied.
49	Tam-Tam	1 FM + 1 AWM	Untuned gong sound. By striking multiple keys with a lot of spirit, you can get really good effects.
50	Clickorgan	1 FM + 1 AWM	An organ sound with heavy plastic click in the attack.
51	FreshSection	1 FM + 3 AWM	Fresh sax section. Play it crisply.
52	Ascension	1 FM + 2 AWM	Sounds like a magic spell being cast.
53	Better Days	1 FM + 2 AWM	Makes an eerie noise. Play one note at a time.
54	Touch me!!	1 FM + 1 AWM	That stereo feeling just shines (old electronic mandolin sound).
55	Blue Mirror	1 FM + 3 AWM	Quivering bell sound.
56	FlameSwaying	1 FM + 3 AWM	Swaying sound of the harp.
57	Spring Bass	1 FM + 3 AWM	Synth bass with a hard attack.
58	Vintage Game	1 FM + 3 AWM	The so-called electronic sound.
59	From a Home	1 FM + 3 AWM	The old family organ has gone hi-fi.
60	Danger Caves	1 FM + 3 AWM	Play it from below-as dark as can be.
61	Afternoon Jam	1 FM + 3 AWM	Guitar and vibraphone played in unison.
62	HappyEnd	1 FM + 2 AWM	An old organ. Play it dramatically.
63	Fantasy Songs	1 FM + 3 AWM	A perfect voice for playing Disney songs.
64	Relax Square	1 FM + 3 AWM	Synth chorus voice.
65	Coriander	1 FM + 3 AWM	Well-matched voice for ethnic songs.
66	Drive Bass	1 FM + 3 AWM	Synth bass with a special attack.
67	LoFi Clavi	1 FM + 2 AWM	Voice like a 70's distorted clavier.
68	ColdWater-DX	1 FM + 3 AWM	A voice with refreshing DX clarity.
69	HiSpeedBrass	1 FM + 3 AWM	Live brass section with a stereo feeling.
70	Ambient Park	1 FM + 3 AWM	Soft Pad.
71	Picked CP	1 FM + 2 AWM	Electric piano that sounds like an electric grand played with a pick.
72	Sand Pad	1 FM + 2 AWM	Warm synth pad with layered DX strings and chorus.
73	DX-Brass1	1 FM + 2 AWM	Brass that emphasizes the hard attack of the trumpet.
74	DX-Brass2	1 FM + 1 AWM	Brass with the unique tension of the DX7.
75	Plucked Wow	1 FM	DX clavinet with auto-wow applied.
76	Plucked EP	1 FM + 2 AWM	Electric piano that sounds like a harp.
77	Brass Pad	1 FM + 1 AWM	Analog synth style brass pad.
78	Octave Decay	1 FM	Hard decay sound.
79	Slap Bass	1 FM + 1 AWM	Slap bass as only the DX7 can do it.
80 81	Ethnic Groove Thai Noodles	1 FM + 1 AWM 1 FM + 1 AWM	Ethnic synth drum. A lead voice that makes you want to eat Thai noodles.
82	ElectrcNylon	1 FM + 1 AWM	A nylon guitar played though a pick-up.
83	DX Martenot	1 FM	Martenot style voice that's classic for suspense.
84	CP80M+DX Ep	1 FM + 1 AWM	Voice with layered CP80M and DX electric pi- ano.
85	Viscous Bass	1 FM + 1 AWM	Gluey synth bass sound.
86	Woody Plucked	1 FM + 1 AWM	Plucked sound with a woody feel.
87	Arco Strings	1 FM + 1 AWM	String section played with bows.
88	Matrix	1 FM + 1 AWM	Thick synth brass pad.
89	PanFlute	1 FM + 2 AWM	Pan flute
90	DigiMute	1 FM + 1 AWM	DX-like mute.
91	DigiSlap	1 FM + 1 AWM	Hard synth bass.
92	SuperDX	1 FM + 1 AWM	Hard slap bass style lead.
93	Friction	1 FM + 2 AWM	Brass pad with a hard friction feel.
94	Comped EP	1 FM + 2 AWM	Percussive electric piano.
95	Clean Guitar	1 FM + 1 AWM	Electric guitar played with a guitar amp that has chorus.
96	Mandolin	1 FM + 1 AWM	Mandolin that brings back memories of good old movies.
97	Reed-Lead	1 FM + 1 AWM	Digital sax-style lead
98	BigBang	1 FM + 2 AWM	SE-type pad that has an attack with a lot of violent modulation.
99 100	DX-Bang! OrinocoDecay	1 FM + 2 AWM	SE-type pad that has an attack with a lot of violent modulation. Sound for arpeggio with an attack like a ma-

MIDI Data Format

1. Channel messages 1.1 Note on/note off

These messages convey keyboard performance data.

Range of note numbers received = C-2...G8

Velocity range = 1...127 (Velocity is received only for note-on)

When the Multi Part parameter "RCV NOTE MESSAGE" = OFF, that part will not receive these messages.

1.2 Control changes

These messages convey control operation information for volume or pan etc. Their functions are differentiated by the control number (Ctrl#).

If the Multi Part parameter Rcv CONTROL CHANGE = OFF, that part will not receive control changes.

1.2.1 Bank Select

This message selects the voice bank.

Control#	Paran	neter		Data	Range
0	Bank	Select	MSB	0	127
32	Bank	Select	LSB	0	127

The Bank Select data will be processed only after a Program Change is received, and then voice bank will change at that time. If you wish to change the voice bank as well as the voice, you must transmit Bank Select and Program Change messages as a set, in the following order: Bank Select MSB, LSB, and Program Change.

1.2.2 Modulation

This message is used primarily to control the depth of vibrato, but the depth of the following 5 types of effect can be controlled. The effect of this message can be changed by the following parameters.

*	Mul	ti	Part	: P	ar	ame	te
---	-----	----	------	-----	----	-----	----

1. MW PITCH CONTROL

- 2. MW FILTER CONTROL
- 3. MW AMPLITUDE CONTROL
 4. MW LFO PMOD DEPTH
- 5. MW LFO AMOD DEPTH

By default, an LFO Pitch Modulation (PMOD) effect will apply.

Control#	Parameter	Data Rang
1	Modulation	0127

If the Multi Part parameter R_{CV} MODULATION = OFF, that part will not receive Modulation.

1.2.3 Portamento Time

This message controls the degree of Portamento (see 1.2.9).

Control#	Parameter	Data Ra	inge
5	Portamento Tim	e 0127	/

When Portamento is ON, this regulates the speed of the pitch change. A value of 0 is the shortest Portamento time, and 127 is the longest Portamento time.

1.2.4 Data Entry

This message sets the value of the parameter which was specified by RPN (see 1.2.17) and NRPN (see 1.2.16).

Control#	Parameter	Data Range
6	Data Entry MSB	0127
38	Data Entry LSB	0127

1.2.5 Main Volume

This message controls the volume of each part. (It is used to adjust the volume balance between parts.)

Control#	Parameter	Data Range
7	Main Volume	0127

When the Multi Part parameter RCV VOLUME = OFF, that part will not receive Main Volume. With a value of 0 there will be no sound, and a value of 127 will produce the maximum volume.

1.2.6 Panpot

This message controls the panning (stereo location) of each part.

Control#	Parameter	Data Range
10	Pan	064127

When the Multi Part parameter RCv PAN = OFF, that part will not receive Panpot. 0 is left, 64 is center, and 127 is right.

1.2.7 Expression

This message controls expression for each part. It is used to create volume changes during a song.

Control#	Parameter	Data Range
11	Expression	0127

If the Multi Part parameter RCV EXPRESSION = OFF, that part will not receive Expression.

1.2.8 Holdl

64

Control#

This message controls sustain pedal on/off.

Parameter Holdl Data Range 0...63, 64...127 (OFF, ON)

When this is ON, currently-sounding notes will continue to sound even if noteoff messages are received. If the Multi Part parameter Rcv HOLD1 = OFF, that part will not receive Holdl.

1.2.9 Portamento

This message controls Portamento pedal on/off.

Control#	Parameter	Data Range
65	Portamento	063, 64127
		(OFF, ON)

When ON, Portamento produces a smooth glide connecting two notes of different pitch. The time over which the pitch changes is adjusted by Portamento Time (see 1.2.3). When the Multi Part Parameter MONO/POLY MODE = MONO, the tone will also change smoothly (legato) if Portamento = ON. If the Multi Part parameter RCV PORTAMENTO = OFF, that part will not receive Portamento. * RCV PORTAMENTO = OFF

1.2.10 Sostenuto

This message controls sostenuto pedal on/off.

Control#	Parameter	Data Range
66	Sostenuto	063,64 127
		(OFF, ON)

If sostenuto is turned on while a note is sounding, that note will be sustained until sostenuto is turned OFF.

If the Multi Part parameter RCV SOSTENUTO = OFF, that part will not receive Sostenuto.

1.2.11 Harmonic Content

This message adjusts the resonance of the filter that is specified for the sound.

Control#	Parameter	Data	Range
71	Harmonic Content	0	.64127
		(-64	0+63)

Since this is a relative change parameter, it specifies an increase or decrease relative to 64. Higher values will produce a more distinctive sound. For some sounds, the effective range may be less than the possible range of settings.

1.2.12 Release Time

C

This message adjusts the EG release time that was specified by the sound data.

ontrol#	Parameter	Data Range
2	Release Time	064 127
		(-640+63)

Since this is a relative change parameter, it specifies an increase or decrease relative to 64. Increasing this value will lengthen the release time that follows a note-off.

1.2.13 Attack Time

This message adjusts the EG attack time that was specified by the sound data.

Control#	Parameter	Data Range
73	Attack Time	064 127
		(-64+63)

Since this is a relative change parameter, it specifies an increase or decrease relative to 64. Increasing this value will make the attack more gradual, and decreasing this value will make the attack sharper.

1.2.14 Brightness

This message adjusts the cutoff frequency of the low pass filter specified by the sound data.

Control#	Parameter	Data Range
74	Brightness	064127
		(-640+63)

Since this is a relative change parameter, it specifies an increase or decrease relative to 64. Lower values will produce a more mellow sound. For some sounds, the effective range may be less than the possible range of settings.

1.2.15 Data Increment/Decrement (for RPN)

This message is used to increment or decrement values for parameters specified by RPN (see 1.2.17), in steps of 1.

by KIN (see 1.2.17), in steps of 1.				
Control#	Parameter		Data	Range
96	RPN	Increment	-	
97	RPN	Decrement	_	
The data byte is i	gnored	1.		

1.2.16 NRPN (Non-registered parameter number)

This is a message for setting the sound for things like vibrato, filter or EG. Use NRPN MSB and NRPN LSB to specify the parameter that you wish to modify, and then use Data Entry (see 1.2.4) to set the value for the specified parameter.

Control#	Parameter	Data Range
98	NRPN LSB	0127
99	NPRN MSB	0127

If the Multi Part parameter RCV NRPN = OFF, that part will not receive NRPN

The following NRPN messages can be received.

NRPN MSB LSB	Data Entry*1 MSB LSB	Parameter Name and Data Range	
01H 08H	mm -*2	Vibrato rate mm: 00H - 40H - 7FH (-640+63)	
01H 09H	mm —	Vibrato depth mm: 00H - 40H - 7FH (-640+63)	
01H 0AH	mm -*3	Vibrato delay mm: 00H - 40H - 7FH (-640+63)	
01H 20H	mm —	Low pass filter cutoff frequency mm: 00H - 40H - 7FH (-640+63)	
01H 21H	mm —	Low pass filter resonance mm: 00H - 40H - 7FH (-640+63)	
01H 24H	mm —	High pass filter cutoff frequency mm: 00H - 40H - 7FH (-640+63)	
01H 30H	mm —	EQ bass gain mm: 00H - 40H - 7FH (-640+63)	
01H 31H	mm —	EQ treble gain mm: 00H - 40H - 7FH (-640+63)	
01H 34H	mm —	EQ bass frequency mm: 04H - 28H (32 2.0K [Hz])	
01H 35H	mm —	EQ treble frequency mm: 1CH - 3AH (500 16.0K [Hz])	
01H 63H	mm —	EG Attack Time mm: 00H - 40H - 7FH (-640+63)	
01H 64H	mm —	EG Decay Time mm: 00H - 40H - 7FH (-640+63)	
01H 66H	mm —	EG Release Time mm: 00H - 40H - 7FH (-640+63)	

*1 See 1.2.4

*2 "-" means that the set value will be ignored.

*3 Adjusts the time after the note is played until vibrato begins to take effect. The effect will begin more quickly for lower values, and more slowly for higher values

1.2.17 RPN (Registered parameter number)

This message is used to specify part parameters such as Pitch Bend Sensitivity or Tuning. Use RPN MSB and RPN LSB to specify the parameter that you wish to modify, and then use Data Entry (see 1.2.4) to set the value of the specified parameter.

Control#	Parameter	Data Range
100	RPN LSB	0 127
101	RPN MSB	0 127

If the Multi Part parameter RCV RPN = OFF, that part will not receive this message.

The following RPN messages can be received.

RPN MSB LSB	Data Entry *1 MSB LSB	Parameter name and value range	
00 00H	mm -*2	Pitch bend sensitivity mm: 00-18H (0+24 semitones) Specify up to 2 octaves in semitone steps	
00 01H	mm 11	Fine tuning mm l1: 00H 00H -100 cents : : mm l1: 40H 00H 0 cents : : mm l1: 7FH 7FH +100 cents Note: The next after mm l1: 00H 7FH (=-87.5) cent is 01H 00H (-87.4) cents.	
00H 02H	mm —	Coarse tuning mm: 28H - 40H - 58H (-240+24 semitones)	
7FH 7FH		RPN Null This empties settings from RPN and NRPN numbers. Internal data is not affected.	

*1 Refer to 1.2.4

*2 "-" means that the set value will be ignored.

1.2.18 Assignable controller

By assigning a control change number of 0...95 to a part, application of effects can be controlled. This device allows two control change numbers (AC1 and AC2) to be specified for each part.

The following parameters specify the effect of AC1 and AC2:

* Multi Part Parameter

- 1. AC1, AC2 PITCH CONTROL
- 2. AC1, AC2 FILTER CONTROL
- 3. AC1, AC2 AMPLITUDE CONTROL 4. AC1, AC2 LFO PMOD DEPTH
- 5. AC1, AC2 LFO AMOD DEPTH

The AC1 control change number is specified by the Multi Part parameter ACl CONTROLLER NUMBER, and the AC2 control change number is specified by the Multi Part parameter AC2 CONTROLLER NUMBER.

1.3 Channel mode messages

These messages specify the basic operation of a part.

1.3.1 All Sound Off

This message silences all notes being played on the corresponding channel. However, channel messages such as Note-on and Hold-on will be maintained in their present state.

Control#	Parameter	Data Range
120	All Sound Off	0

1.3.2 Reset All Controllers

This message changes the settings of the following controllers.

Controller	Value
Pitch bend change	±0 (Center)
Channel pressure	0 (OFF)
Polyphonic key pressure	0 (OFF)
Modulation	0 (OFF)
Expression	127 (Max.)
Hold	0 (OFF)
Portamento	0 (OFF)
Sostenuto	0 (OFF)
RPN	Number unset, internal data is not affected.
NRPN	Number unset, internal data is not affected.

The following data is not changed

Parameter values specified for program change, bank select MSB/LSB, volume, pan, effect send levels 1, 3, 4, RPN and NRPN.

Data Range

Control#	Param	leter	<u>c</u>	D
121	Reset	A11	Controllers	0

1.3.3 All Note Off

This message turns off all notes which are currently on for the corresponding part.

However, if Hold 1 or Sostenuto are on, notes will continue to sound until these are turned off.

Control#	Parameter	Data Ran	ge
123	All Note Off	0	

1.3.4 Omni Off

Works the same as when All Note Off is received.

Control#	Parameter	Data	Range
124	Omni Off	0	

1.3.5 Omni On

Works the same as when All Note Off is received.				
Control#	Parameter	Data	Range	
125	Omni On	0		

1.3.6 Mono

Works the same as when All Sound Off is received, and if the value (mono number) is in the range of 0... 16, sets the corresponding channel to Mode4* (m = 1)

Control#	Parameter	Data Range
126	Mono	0 16

* Mode4 is a state in which only channel messages on the specified channel will be received, and notes will be played individually (monophonically).

1.3.7 Poly

Works the same as when All Sound Off is received, and sets the corresponding channel to Mode3*.

Control#	Parameter	Data Range
127	Poly	0

*Mode3 is when channel messages will be received only on the specified channel, and notes will be sounded polyphonically.

1.4 Program change

This message is used to switch voices.

It changes the program number on the receiving channel. When the change is to include the voice bank, transmit the program change after sending the Bank Select message (see 1.2.1).

If the Multi Part parameter RCV PROGRAM CHANGE = OFF, that part will not receive program changes.

1.5 Pitch bend

This message conveys information on pitch bend operations.

Basically, this message is for changing the pitch of a part, but the depth of the following five effects can be controlled.

The effect of this message can be modified by the following parameters.

- * Multi Part Parameter
- 1. BEND PITCH CONTROL
- 2. BEND FILTER CONTROL
- 3. BEND AMPLITUDE CONTROL
- 4. BEND LFO PMOD DEPTH
- 5. BEND LFO AMOD DEPTH
- By default, the Pitch Control effect is applied.

If the Multi Part parameter RCV PITCH BEND CHANGE = OFF, that part will not receive pitch bend messages.

1.6 Channel aftertouch

This message conveys the pressure after the key is played on the keyboard (for an entire MIDI channel). The pressure can be controlled for each part. This message will affect the notes currently playing.

The effect of this message can be modified by the following parameters.

- * Multi Part Parameter
- 1. CAT PITCH CONTROL
- 2. CAT FILTER CONTROL
- 3. CAT AMPLITUDE CONTROL
- 4. CAT LFO PMOD DEPTH
- 5. CAT LFO AMOD DEPTH

By default, there will be no effect.

If the Multi Part parameter RCV CHANNEL AFTER TOUCH = OFF, that part will not receive Channel Aftertouch.

1.7 Polyphonic aftertouch

This message conveys the pressure after the key is played on the keyboard (for individual note numbers). The pressure can be controlled for each part. This message will affect the notes currently playing.

The effect of this message is determined by the following Multi Part parameters.

- 1. PAT PITCH CONTROL
- 2. PAT AMPLITUDE CONTROL
- 3. PAT LFO PMOD DEPTH
- 4. PAT LFO AMOD DEPTH

By default, there will be no effect. If the Multi Part parameter RCV POLY AFTER TOUCH = OFF, that part will not receive Polyphonic Aftertouch.

2. System exclusive messages

2.1 Parameter changes

- This devices uses the following parameter changes. [UNIVERSAL REALTIME MESSAGE] 1) Master Volume
- [UNIVERSAL NON REALTIME MESSAGE]

1) General MIDI System On

- [XG PARAMETER CHANGE]
- 1) XG System on
- 2) XG System parameter change
- 3) Multi Part parameter change
- [PLG100-DX NATIVE PARAMETER CHANGE]
- 1) PLG100-DX System parameter change
- 2) PLG100-DX Multi Part parameter change [DX PARAMETER CHANGE]
- 1) VCED parameter change 2) ACED parameter change

2.1.1 Universal realtime messages

2	.1.1.1 Master Vo	lume	
	11110000	FOH	= Exclusive status
	01111111	7FH	= Universal Real Time
	01111111	7FH	= ID of target device
	00000100	04H	= Sub-ID #1=Device Control Message
	0000001	01H	= Sub-ID #2=Master Volume
1	° Ossasasa	SSH	= Volume LSB
	Otttttt	TTH	= Volume MSB
	11110111	F7H	= End of Exclusive
	11110000	FOH	= Exclusive status
	01111111	7FH	= Universal Real Time
	0xxxnnnn	XNH	= Device Number, xxx = don't care
	00000100	04H	= Sub-ID #1=Device Control Message
	0000001	01H	= Sub-ID #2=Master Volume
	Ossssss	SSH	= Volume LSB
	Otttttt	TTH	= Volume MSB
	11110111	F7H	= End of Exclusive
	When received,	the Volur	ne MSB is reflected in the System Paramete

er MAS-TER VOLUME.

* The binary expression Ossssss is expressed in hexadecimal as SSH. The same applies elsewhere.

2.1.2 Universal non-realtime messages

2

.1.2.1 General 1	MIDI Sys	tem On
11110000	FOH	= Exclusive status
01111110	7eh	= Universal Non-Real Time
01111111	7FH	= ID of target device
00001001	09H	= Sub-ID #1=General MIDI Message
00000001	01H	= Sub-ID #2=General MIDI On
11110111	F7H	= End of Exclusive
or		
11110000	FOH	= Exclusive status
01111110	7eh	= Universal Non-Real Time
0xxxnnnn	XNH	= N:Device Number, X:don't care
00001001	09H	= Sub-ID #1=General MIDI Message
00000001	01H	= Sub-ID #2=General MIDI On
11110111	F7H	= End of Exclusive

When this message is received, the SOUND MODULE MODE is set to XG, and all data except for MIDI Master Tuning will be restored to the default value. However this message will not be received when SOUND MODULE MODE = C/M.

Since approximately 50ms is required to process this message, be sure to allow an appropriate interval before sending the next message.

2.1.3 XG parameter change

This message sets XG-related parameters. Each message can set a single parameter.

l'he	message	format	is	as	fol	low	S
------	---------	--------	----	----	-----	-----	---

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:device Number
01001100	4CH	Model ID
0ggggggg	GGH	Address High
Ommmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0ssssss	SSH	Data
:	:	
11110111	F7H	End of Exclusive

For parameters whose Data Size is 2 or 4, the appropriate amount of data will be transmitted as indicated by Size.

2.1.3.1 XG System On

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:device Number
01001100	4CH	Model ID
00000000	00H	Address High
00000000	00H	Address Mid
01111110	7EH	Address Low
00000000	00H	Data
11110111	F7H	End of Exclusive
When ON is re	eceived, th	e SOUND MODULE MODE changes to XG.
a: .	. 1 50	

Since approximately 50ms is required to process this message, be sure to allow an appropriate interval before sending the next message.

2.1.3.2 XG System Parameter Change

- This message sets the XG SYSTEM block (see Tables <1-1> and <1-2>).
- 2.1.3.3 Multi Part Parameter Change

This message sets the Multi Part block (see Tables <1-1> and <1-3>).

2.1.4 PLG100-DX native parameter change (1)

This message sets parameters unique to the PLG100-DX. Each message sets a single parameter. The message format is as shown below.

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:Device Number
01100010	62H	Model ID
0ggggggg	GGH	Address High
Ommmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvv	VVH	Data
:	:	

11110111 F7H End of Exclusive

For parameters whose Data Size is 2 or 4, the appropriate amount of data will be transmitted as indicated by Size.

2.1.4.1 PLG100-DX System Parameter Change

This message sets the PLG100-DX SYSTEM block (see Tables <2-1> and <2-2>).

2.1.4.2 PLG100-DX Part Parameter Change This message sets the PLG100-DX MULTI PART block (see Tables <2-1> and <2-3>).

2.1.5 DX Parameter Change

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:Device Number
Oggggghh	GGH	Parameter Group No.
0ppppppp	PPH	Parameter No.
0vvvvvvv	VVH	Data
11110111	F7H	End of Exclusive

- 2.1.5.1 VCED parameter change
- This message sets the VCED block (see Tables <3-1> and <3-2>).

2.1.5.2 ACED parameter change

This message sets the ACED block (see Tables <3-1> and <3-3>).

2.2 Bulk dump

This device uses only the following bulk dump messages.

- [XG BULK DUMP]
 - 1) XG System bulk dump
- 2) Multi Part bulk dump
- [PLG100-DX NATIVE BULK DUMP] 1) System bulk dump
- 2) Part bulk dump
- [DX BULK DUMP]
 - 1) VCED
 - 2) ACED
 - 3) VMEM
 - 4) AMEM

2.2.1 XG bulk dump

This message sets XG-related parameters. Unlike parameter change messages, a single message can modify multiple parameters. The message format is as follows.

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0000nnnn	ONH	N:Device Number
01001100	4CH	Model ID
Ossssss	SSH	ByteCountMSB
Otttttt	TTH	ByteCountLSB
0ggggggg	GGH	Address High
Ommmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvv	VVH	Data
:	:	

0kkkkkk KKH Check-sum 11110111 F7H End of Exclusive

Address and Byte Count are given in tables <1-n>. Byte Count is indicated by

the total size of the Data in tables <1-n>. Bulk dump is received when the beginning of the block is specified in "Address"

'Block' indicates the unit of the data string that is indicated in tables 1-n as 'Total size'.

Check sum is the value that produces a lower 7 bits of 0 when the Start Address, Byte Count, Data, and the Check sum itself are added.

2.2.1.1 XG System bulk dump

This message sets the XG SYSTEM block (see Tables <1-1>, <1-2>).

2.2.1.2 Multi Part bulk dump

This message sets the MULTIPART block (see Tables <1-1>, <1-3>).

2.2.2 PLG100-DX Native Bulk Dump

This message sets the special parameters for PLG100-DX. Unlike Parameter change, one message can modify multiple parameters.

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0000nnnn	ONH	N:Device Number
01100010	62H	Model ID
Ossssss	SSH	ByteCountMSB
Otttttt	TTH	ByteCountLSB
0ggggggg	GGH	Address High
Ommmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvv	VVH	Data
:	:	
0kkkkkk	KKH	Check-sum
11110111	F7H	End of Exclusive
		6

The details are the same as for 2.2.1 XG Bulk Dump. However, see Tables <2n> for the Address, Byte Count, and block.

n> for the Address, Byte Count, and blo

2.2.2.1 PLG100-DX System Bulk Dump

This message sets the PLG100-DX SYSTEM block (see Tables <2-1>, <2-2>).

2.2.2.2 PLG100-DX Multi Part bulk dump

This message sets the PLG100-DX MULTI PART block (see Tables <2-1>, <2-3>).

2.2.3 DX bulk dump

11110000	FOH	Exclusive status
01000011	43H	YAMAHA ID
0000nnnn	ONH	N:Device Number
Otttttt	TTH	Format No.
Ossssss	SSH	ByteCountMSB
Otttttt	TTH	ByteCountLSB
0vvvvvvv	VVH	Data
:	:	
0kkkkkkk	KKH	Check-sum

11110111 F7H End of Exclusive

Address and Byte Count are given in tables <3-n>. Byte Count is indicated by the total size of the Data in tables <4-n>.

Bulk dump is received when the beginning of the block is specified in "Address".

"Block" indicates the unit of the data string that is indicated in tables 3-n as "Total size".

Check sum is the value that produces a lower 7 bits of 0 when the DATA, and the Check-sum itself are added.

2.2.3.1 VCED Bulk Dump

This message sets the $\hat{V}CED$ block (see Tables <4-1> and <3-2>.

2.2.3.2 ACED Bulk Dump

This message sets the ACED block (see Tables <4-1> and <3-3>.

2.2.3.3 VMEM Bulk Dump

This message sets the VMEM block (see Tables <4-1> and <4-2>.

2.2.3.4 AMEM Bulk Dump

This message sets the AMEM block (see Tables <4-1> and <4-3>.

3. Realtime Messages

3.1 Active Sensing

- a) Send
- Do not send.

b) Receive

After FE is received one time, if the MIDI signal does not come within 400 msec, PLG100-DX will act the same as when ALL SOUND OFF, ALL NOTE OFF, and RESET ALL CONTROLLERS are received, and return to the condition where FE has not been received once.

<1-1> Parameter Base Address

MODEL ID = 4C

Parameter		Address		Description
Parameter	(H)	(M)	(L)	Description
XG SYSTEM	00	00	00	System
	00	00	7E	XG System On
	00	00	7F	All Parameter Reset
MULTI PART	08	00	00	Multi Part 1
				:
	08	0F	00	Multi Part 16
MULTI PART	0A	00	00	Multi Part 1
(additional)				:
				:
	0A	0F	00	Multi Part 16
PART ASSIGN	70	02	00	PLG100-DX Part Assign

<1-2> MIDI Pa	rameter	Change t	able (XG SYSTE	EM)		
Address (H)	rameter	Size (H)	Data (H)	Parameter	Description	Default Value (H)
	0	4	00 - OF	MASTER TUNE	-102.40+102.3[cent]	00 04 00 00
	1		00 - 0F		lst bit3-0→bit15-12	
	2 3		00 - OF 00 - OF		2nd bit3-0→bit11-8 3rd bit3-0→bit7-4	
	5		00 01		4th bit3-0→bit3-0	
	4	1	00 - 7F	MASTER VOLUME**	0127	7F
	5	1	00 - 7F	MASTER ATTENUATOR**	0127	0
	6 7D	1 1	28 - 58	TRANSPOSE NOT USED	-240+24[semitones]	40
	7E	1	0	XG SYSTEM ON	00=XG system ON (receive only)	_
	7F	1	0	ALL PARAMETER RESET	00=ON (receive only)	_
TOTAL		-				
IUIAL	SIZE	/	** Processed of	on the XG platform side (MU128, etc.)		
<1-3>		~				
MIDI Pa Address	rameter	Change Size	table (MULTI P. Data	ART) Parameter	Description	Default Value
(H)		(H)	(H)	r ai ailicici	Description	(H)
8 nn	0	1		NOT USED		
nn		1	00 - 7F	BANK SELECT MSB	0127	0
nn nn		1 1	00 - 7F 00 - 7F	BANK SELECT LSB	0127 1128	0
nn		1	00 - 7F 00-1F,7F	PROGRAM NUMBER Rcv CHANNEL	A1A16, OFF	Part No.
nn		1	00 - 01	MONO/POLY MODE	MONO, POLY	1
nn	б	1	00 - 02	SAME NOTE NUMBER	SINGLE, MULTI,	1 KEN ON AGGION
						KEY ON ASSIGN
nn	7	1	00 - 05	PART MODE	NORMAL,	0
nn		1	28 - 58	NOTE SHIFT	-240+24[semitones]	40
nn nn		2	00 - 0F 00 - 0F	DETUNE	-12.80+12.7[Hz] 1st bit3-0→bit7-4	08 00
1111	UA		00 - 01		2nd bit3-0 \rightarrow bit3-0	
nn	0B	1	00 - 7F	VOLUME**	0127	64
nn		1	00 - 7F	VELOCITY SENSE DEPTH	0127	40
nn nn		1 1	00 - 7F 00 - 7F	VELOCITY SENSE OFFSET PAN**	0127 C, L63CR63	40
nn		1	00 - 7F 00 - 7F	NOTE LIMIT LOW	C-2G8	40 0
nn		1	00 - 7F	NOTE LIMIT HIGH	C-2G8	7F
nn		1	00 - 7F	DRY LEVEL**	0127	7F
nn		1	00 - 7F 00 - 7F	CHORUS SEND**	0127 0127	0
nn nn		1 1	00 - 7F 00 - 7F	REVERB SEND** VARIATION SEND**	0127	28 0
nn		1	00 - 7F	VIBRATO RATE	-646+63	40
nn		1	00 - 7F	VIBRATO DEPTH	-6463	40
nn nn		1	00 - 7F 00 - 7F	VIBRATO DELAY LOW PASS FILTER CUTOFF FREQUENCY	-640+63 -640+63	40 40
nn		1	00 - 7F	LOW PASS FILTER RESONANCE	-640+63	40
nn		1	00 - 7F	EG ATTACK TIME	-64+63	40
nn		1	00 - 7F	EG DECAY TIME	-646+63	40
nn nn		1 1	00 - 7F 28 - 58	EG RELEASE TIME MW PITCH CONTROL	-640+63 -240+24[semitones]	40 40
nn		1	00 - 7F	MW LOW PASS FILTER CONTROL	-96000+9450[cent]	40
nn	1F	1	00 - 7F	MW AMPLITUDE CONTROL**	-1000+100[%]	40
nn		1	00 - 7F	MW LFO PMOD DEPTH	0127	0A
nn nn		1 1	00 - 7F	NOT USED MW LFO AMOD DEPTH	0127	0
nn		1	28 - 58	BEND PITCH CONTROL	-240+24[semitones]	42
nn		1	00 - 7F	BEND LOW PASS FILTER CONTROL	-96000+9450[cent]	40
nn		1	00 - 7F 00 - 7F	BEND AMPLITUDE CONTROL** BEND LFO PMOD DEPTH	-1000+100[%] 0127	40 0
nn nn		1	00 - 75	NOT USED	5±27	_
nn	28	1	00 - 7F	BEND LFO AMOD DEPTH	0127	
TOTAL	SIZE	29				0
nn				RCV PITCH BEND	OFF, ON	1
nn nn	32	1		RCV CH AFTER TOUCH(CAT) RCV PROGRAM CHANGE	OFF, ON OFF, ON	1
	33	1	00 - 01	RCV CONTROL CHANGE	OFF, ON	1
nn	34	1	00 - 01	RCV POLY AFTER TOUCH(PAT) RCV NOTE MESSAGE RCV RPN	OFF, ON	1
nn	35	1	00 - 01	RCV NOTE MESSAGE	OFF, ON	1
nn nn		1	00 - 01 00 - 01	RCV RPN RCV NRPN	OFF, ON OFF, ON	1 XGmode=01, GMmode=00
nn				RCV MODULATION	OFF, ON	1
	39	1	00 - 01	Row WOLUME	OFF, ON	1
	3A	1	00 - 01	RCV PAN	OFF, ON	1
nn		1	UU - Ul	RCV EXPRESSION	OFF, ON	1
nn nn	3B 3C	1	00 - 01	Rev HOLD1	OFF ON	1
nn	3B 3C 3D	1	00 - 01 00 - 01	Rcv HOLD1 Rcv PORTAMENTO	OFF, ON OFF, ON	1
nn nn nn nn	3B 3C 3D 3E	1 1 1	$\begin{array}{rrrr} 00 & - & 01 \\ 00 & - & 01 \\ 00 & - & 01 \end{array}$	Rcv HOLD1 Rcv PORTAMENTO Rcv SOSTENUTO	OFF, ON OFF, ON OFF, ON	-
nn nn nn nn	38	1		RCV PAN RCV EXPRESSION RCV HOLD1 RCV PORTAMENTO RCV SOSTENUTO NOT USED RCV BANK SELECT	OFF, ON	1

41	1	00 - 7F	SOME BURNING O	-640+63[cent]	10
nn 41	1		SCALE TUNING C		40
nn 42	1	00 - 7F	SCALE TUNING C#	-640+63[cent]	40
nn 43	1	00 - 7F	SCALE TUNING D	-640+63[cent]	40
nn 44	1	00 - 7F	SCALE TUNING D#	-640+63[cent]	40
nn 45	1	00 - 7F	SCALE TUNING E	-640+63[cent]	40
nn 46	1	00 - 7F	SCALE TUNING F	-640+63[cent]	40
nn 47	1	00 - 7F	SCALE TUNING F#	-640+63[cent]	40
	-				
nn 48	1	00 - 7F	SCALE TUNING G	-640+63[cent]	40
nn 49	1	00 - 7F	SCALE TUNING G#	-640+63[cent]	40
nn 4A	1	00 - 7F	SCALE TUNING A	-640+63[cent]	40
nn 4B	1	00 - 7F	SCALE TUNING A#	-640+63[cent]	40
nn 4C	1	00 - 7F	SCALE TUNING B	-640+63[cent]	40
nn 4D	1	28 - 58	CAT PITCH CONTROL	-240+24[semitones]	40
	-				
nn 4E	1	00 - 7F	CAT LOW PASS FILTER CONTROL	-96000+9450[cent]	40
nn 4F	1	00 - 7F	CAT AMPLITUDE CONTROL**	-1000+100[%]	40
nn 50	1	00 - 7F	CAT LFO PMOD DEPTH	0127	0
		00 /1		0127	
nn 51	1		NOT USED		-
nn 52	1	00 - 7F	CAT LFO AMOD DEPTH	0127	0
nn 53	1	28 - 58	PAT PITCH CONTROL	-240+24[semitones]	40
		20 - 50		-240+24[Bellitcones]	
nn 54	1		NOT USED		-
nn 55	1	00 - 7F	PAT AMPLITUDE CONTROL**	-1000+100[%]	40
nn 56	1	00 - 7F	PAT LFO PMOD DEPTH	0127	0
		00 - 75		0127	
nn 57	1		NOT USED		-
nn 58	1	00 - 7F	PAT LFO AMOD DEPTH	0127	0
	1	00 - 5F		095	10
nn 59	-		AC1 CONTROLLER NUMBER		
nn 5A	1	28 - 58	AC1 PITCH CONTROL	-240+24[semitones]	40
nn 5B	1	00 - 7F	AC1 LOW PASS FILTER CONTROL	-96000+9450[cent]	40
nn 5C	1	00 - 7F	AC1 AMPLITUDE CONTROL**	-1000+100[%]	40
nn 5D	1	00 - 7F	AC1 LFO PMOD DEPTH	0127	0
nn 5E	1		NOT USED		-
		00 70		0 107	
nn 5F	1	00 - 7F	AC1 LFO AMOD DEPTH	0127	0
nn 60	1	00 - 5F	AC2 CONTROLLER NUMBER	095	11
nn 61	1	28 - 58	AC2 PITCH CONTROL	-240+24[semitones]	40
nn 62	1	00 - 7F	AC2 LOW PASS FILTER CONTROL	-96000+9450[cent]	40
nn 63	1	00 - 7F	AC2 AMPLITUDE CONTROL**	-1000+100[%]	40
nn 64	1	00 - 7F	AC2 LFO PMOD DEPTH	0127	0
		00 /1		0127	
nn 65	1		NOT USED		-
nn 66	1	00 - 7F	AC2 LFO AMOD DEPTH	0127	0
nn 67	1	00 - 01	PORTAMENTO SWITCH	OFF, ON	0
nn 68	1	00 - 7F	PORTAMENTO TIME	0127	0
nn 69	1	00 - 7F	PITCH EG INITIAL LEVEL	-640+63	40
nn 6A	1	00 - 7F	PITCH EG ATTACK TIME	-640+63	40
nn 6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-640+63	40
nn 6C	1	00 - 7F	PITCH EG RELEASE TIME	-640+63	40
nn 6D	1	01 - 7F	VELOCITY LIMIT LOW	1127	1
nn 6E	1	01 - 7F	VELOCITY LIMIT HIGH	1127	7F
TOTAL SIZE	3F				
nn 70	1		NOT USED		-
nn 71	1		NOT USED		_
		00 - 7F		10 10[dp]	40
nn 72	1		EQ BASS GAIN	-12 - +12[dB]	
nn 73	1	00 - 7F	EQ TREBLE GAIN	-12 - +12[dB]	40
TOTAL SIZE	4				
101111 0100	-				
nn 74	1		NOT USED		-
nn 75	1		NOT USED		_
		0.4 0.0		20 0 0-11-1	
nn 76	1	04 - 28	EQ BASS FREQUENCY	322.0k[Hz]	0C
nn 77	1	1C - 3A	EQ TREBLE FREQUENCY	50016.0k[Hz]	36
nn 78	1		NOT USED		_
nn 79	1		NOT USED		-
nn 7A	1		NOT USED		-
nn 7B	1		NOT USED		_
nn 7C	1		NOT USED		-
nn 7D	1		NOT USED		-
nn 7E	1		NOT USED		_
nn 7F	1		NOT USED		-
TOTAL SIZE	0C				
0100					
_					
0A nn 20	1	00 - 7F	HIGH PASS FILTER CUTOFF FREQUENCY	-640+63	40
nn 21	1		NOT USED		-
TOTAL SIZE					
TOTUD STOR	4				
nn = PAR	RT NUMBE	R			
			form side (MU128, etc.)		
-	11000588	a on the AO platt	om side (WO 120, etc.)		

<1-4>

<1-4>					
MIDI Param	eter Change	table (PART AS	SSIGN)		
Address	Size	Data	Parameter	Description	Default Value
(H)	(H)	(H)			(H)
70 2 nn	1	00 - OF,7	F Part Assign	A1A16, OFF	0

TOTAL SIZE 1

nn = PLG100-DX Serial Number

<2-1> Parameter Base Address MODEL ID = 62

Demonstra	Address			Description
Parameter	(H)	(M)	(L)	Description
PLG100-DX SYSTEM	00	00	00	System
PLG100-DX	60	00	00	Multi Part 1
MULTI PART				:
				:
	60	0F	00	Multi Part 16

<2-2>

MIDI P	MIDI Parameter Change table (PLG100-DX Native SYSTEM)						
Address	5	Size	Data	Parameter	Description	Default Value	
(H)		(H)	(H)			(H)	
0 0	7	1		NOT USED		-	
	8	1	00 - 06	VELOCITY CURVE	DX,normal,Soft1,Soft2,Easy,Wide,Hard	1	
	9	1		NOT USED		-	
	0A	1		NOT USED		-	
	0B	1		NOT USED		-	
	0C	1		NOT USED		-	
	0D	1		NOT USED		-	
	0E	1	00 - 01	32 BULK RECEIVE BLOCK	1-32, 33-64	0	
	0F	1		NOT USED		-	
TOTAL	SIZE	9					

<2-3>

<2-3>					
MIDI Paramete			DX Native MULTI PART)		
Address	Size	Data	Parameter	Description	Default Value
(H)	(H)	(H)			(H)
60 nn 0	1	00 - 06	AC4 Controller	Off, MOD, BC, FC, EXP, CAT, PB	0
nn 1	1	00 - 01	AC4 Parameter Select	Noassign, EGbias	0
nn 2	1		NOT USED		0
nn 3	1		NOT USED		0
nn 4	1		NOT USED		0
nn 5	1	00 - 7F	AC4 Parameter Depth	-640+63	40
nn 6	1		NOT USED		40
nn 7	1		NOT USED		40
nn 8	1		NOT USED		40
nn 9	1		NOT USED		0
nn 0A	1		NOT USED		0
nn OB	1	00 - 7F	Carrier Levell	-640+63	40
nn OC	1	00 - 7F	Carrier Level2	-640+63	40
nn OD	1	00 - 7F	Carrier Level3	-640+63	40
nn OE	1	00 - 7F	Carrier Level4	-640+63	40
nn OF	1	00 - 7F	Carrier Level5	-640+63	40
nn 10	1	00 - 7F	Carrier Level6	-640+63	40
nn 11	1		NOT USED		40
nn 12	1		NOT USED		40
nn 13	1	00 - 7F	Modulator Level1	-640+63	40
nn 14	1	00 - 7F	Modulator Level2	-640+63	40
nn 15	1	00 - 7F	Modulator Level3	-640+63	40
nn 16	1	00 - 7F	Modulator Level4	-640+63	40
nn 17	1	00 - 7F	Modulator Level5	-640+63	40
nn 18	1	00 - 7F	Modulator Level6	-640+63	40
nn 19	1		NOT USED		40
nn 1A	1		NOT USED		40
nn 1B	1	39 - 47	FeedBack Level	-7+7	40
TOTAL SIZE	1C				
60 nn 1C	1	00 - 01	Portamento Mode	0:retain(poly),fingered(mono),	1
				1:follow(mono),fulltime(poly)	
nn 1D	1	00 - 0C	Portamento Step	012	0
nn 1E	1	00 - 0C	PitchBend Step	012	0
nn 1F	1		NOT USED		0
TOTAL SIZE	4				
nn 20	1	00 - 01	RcvDxSysEx	0:OFF 1:ON	1
nn = PAI	RT NUME	REB			

<3-1>

Parameter Group Number

nn = PART NUMBER

		Parameter	
Group	o No.	Description	parameter#
g	h	Description	parameter#
00	00	VCED(Voice Edit Buffer)	0127
00	01	VCED(Voice Edit Buffer)	028
06	00	ACED(Additional Edit Buffer)	073

h OP6 (H) (H) 00 00 00 01 00 02 00 03 00 04 00 05 00 06 00 07	OP5 (H) 15 16 17 18	(H) 2A 2B	OP3 (H) 3F	OP2 (H)	OP1					
00 00 00 01 00 02 00 03 00 04 00 05 00 06	15 16 17 18	2A 2B			(H)	(H)	(H)			(H)
00 01 00 02 00 03 00 04 00 05 00 06	16 17 18	2в		54	69	1	00 - 63	EG RATE1	099	63
00 02 00 03 00 04 00 05 00 06	17 18		40	55	6A	1	00 - 63	EG RATE2	099	63
00 03 00 04 00 05 00 06	18	2C	41	56	6B	1	00 - 63	EG RATE3	099	63
00 04 00 05 00 06		2D	42	57	6C	1	00 - 63	EG RATE4	099	63
00 05 00 06	19	2E	43	58	6D	1	00 - 63	EG LEVEL1	099	63
00 06	1A	2F	44	59	6E	1	00 - 63	EG LEVEL2	099	63
	1B	30	45	5A	6F	1	00 - 63	EG LEVEL3	099	63
	1C	31	46	5B	70	1	00 - 63	EG LEVEL4	099	00
00 08	1D	32	47	5C	71	1	00 - 63	BREAK POINT	A-1C8	27
00 09	1E	33	48	5D	72	1	00 - 63	LEFT DEPTH	099	00
00 0A	1F	34	49	5E	73	1	00 - 63	RIGHT DEPTH	099	00
00 OB	20	35	4A	5F	74	1	00 - 03	LEFT CURVE	-lin,-exp,+exp,+lin	00
00 OC	21	36	4B	60	75	1	00 - 03	RIGHT CURVE	-lin,-exp,+exp,+lin	00
00 0D	22	37	4C	61	76	1	00 - 07	RATE SCALING	07	00
00 0E	23	38	4D	62	77	1	00 - 03	AMPLITUDE MODULATION SENSITIVITY	03	00
00 OF	24	39	4E	63	78	1	00 - 07	TOUCH SENSITIVITY	07	00
00 10	25	3A	4F	64	79	1	00 - 63	TOTAL LEVEL	099	OP1=99,other
00 11	26	3B	50	65	7A	1	00 - 01	FREQUENCY MODE	ratio,fixed	00
00 12	27	3C	51	66	7B	1	00 - 1F	FREQUENCY COURSE	031	01
00 13	28	3D	52	67	7C	1	00 - 63	FREQUENCY FINE	099	00
00 14	29	3E	53	68	7D	1	00 - 0E	DETUNE	-7+7	07
00					7E	1	00 - 63	PEG RATE1	099	63
00					7F	1	00 - 63	PEG RATE2	099	63
01					00	1	00 - 63	PEG RATE3	099	63
01					01	1	00 - 63	PEG RATE4	099	63
01					02	1	00 - 63	PEG LEVEL1	099	32
01					03	1	00 - 63	PEG LEVEL2	099	32
01					04	1	00 - 63	PEG LEVEL3	099	32
01					05	1	00 - 63	PEG LEVEL4	099	32
01					06	1	00 - !F	ALGORITHM SELECTOR	132	00
01					07	1	00 - 07	FEEDBACK LEVEL	07	00
01					08	1	00 - 01	OSC PHASE INIT	off, on	01
01					09	1	00 - 63	LFO SPEED	099	23
01					0A	1	00 - 63	LFO DELAY TIME	099	00
01					0B	1	00 - 63	PITCH MODULATION DEPTH	099	00
01					0C	1	00 - 63	AMPLITUDE MODULATION DEPTH	099	00
01					0D	1	00 - 01	LFO KEY SYNC	off,on	01
01					0E	1	00 - 05	LFO WAVE	triangle,sawdown, sawup,square,	00
									sine,s/hold	
01					0F	1	00 - 07	LFO PITCH MODULATION SENSITIVITY	07	03
01					10	1	00 - 2F	TRANSPOSE	C1C5	18
01					11	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	`I′
01					12	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	'N′
01					13	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	`I′
01					14	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	`T′
01					15	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	
01					16	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	'V'
01					17	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	`O <i>'</i>
01					18	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	`I′
01					19	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	'C'
01					1A	1	25 - 58	VOICE NAME	32127 (ASCII CHARACTER)	`E′
AL SIZE	9B									
01					1B	1	00 - 3F	OPERATOR ENABLE	Bit5:OP1,Bit4:OP2,Bit3:OP3, Bit2:OP4,Bit1:OP5,Bit0:OP6	

 OP4 AMPLITUDE MODULATION SENSITIVITY
 0...7

 OP3 AMPLITUDE MODULATION SENSITIVITY
 0...7

 OP2 AMPLITUDE MODULATION SENSITIVITY
 0...7

 OP1 AMPLITUDE MODULATION SENSITIVITY
 0...7

 $\begin{array}{r} 00 & - & 07 \\ 00 & - & 07 \\ 00 & - & 07 \\ 00 & - & 07 \\ 00 & - & 07 \end{array}$

0A 0B

Appendix

0C	1	00 - 03	PITCH EG RANGE	8va,2va,1va,1/2va	00
0D	1	00 - 01	LFO KEY TRIGGER	single, multi	00
0 E	1	00 - 01	PITCH EG BY VELOCITY SWITCH	off, on	00
OF	1	00 - 03	POLY/MONO, UNISON SWITCH	bit0:poly/mono,bit1:unison off/or	1 00
10	1	00 - 0C	PITCH BEND RANGE	012	02
11	1	00 - 0C	PITCH BEND STEP	012	00
12	1		NOT USED		_
13	1	00 - 07	RANDOM PITCH FLUCTUATION	07	00
14	1	00 - 01	PORTAMENTO MODE	rtn/flw, fingrd/flltm	00
15	1	00 - 0C	PORTAMENTO STEP	012	00
16	1	00 - 63	PORTAMENTO TIME	099	00
17	1		NOT USED		-
18	1		NOT USED		_
19	1		NOT USED		_
1A	1		NOT USED		_
1B	1		NOT USED		-
1C	1		NOT USED		_
1D	1		NOT USED		_
1E	1		NOT USED		_
1F	1		NOT USED		_
20	1		NOT USED		_
21	1		NOT USED		_
22	1		NOT USED		_
23	1		NOT USED		_
24	1		NOT USED		_
25	1		NOT USED		_
26	1	00 - 07	PITCH EG RATE SCALING DEPTH	07	-
40	1		NOT USED		_
41	1		NOT USED		_
42	1		NOT USED		_
43	1		NOT USED		_
44	1		NOT USED		_
45	1		NOT USED		_
46	1		NOT USED		_
47	1		NOT USED		_
48	1	00 - 07	UNISON DETUNE DEPTH	07	00
49	1		NOT USED		_

TOTAL SIZE 31

<4-1>

Parameter Group Number

Format No.	Description	Total Size
00	VCED (Voice Edit Buffer)	155
05	ACED (Additional Edit Buffer)	49
06	AMEM (packed 32 supplement)	1120
09	VMEM (packed 32 voice)	4096

<4-	2>
DX	P

~ .									
DX	Packed	Voice P	aramete	er - VM	EM form	nat			
		Pa	aramete	r#			Size	Parameter	Description
	OP6	OP5	OP4	OP3	OP2	OP1			BIT6 BIT5 BIT4 BIT3 BIT2 BIT1 BIT0
	(H)	(H)	(H)	(H)	(H)	(H)	(H)		
	0.0	11	22	33	44	55	1	EG RATE1	R1
	01	12	23	34	45	56	1	EG RATE2	R2
	02	13	24	35	46	57	1	EG RATE3	R3
	03	14	25	36	47	58	1	EG RATE4	R4
	04	15	26	37	48	59	1	EG LEVEL1	L1
	05	16	27	38	49	5A	1	EG LEVEL2	L2
	06	17	28	39	4A	5B	1	EG LEVEL3	L3
	07	18	29	3A	4B	5C	1	EG LEVEL4	L4
	08	19	2A	3B	4C	5D	1	BREAK POINT	BP
	09	1A	2B	3C	4D	5E	1	LEFT DEPTH	LD
	0A	1B	2C	3D	4E	5F	1	RIGHT DEPTH	RD
	0B	1C	2D	3E	4F	60	1	RIGHT CURVE/LEFT CURVE	— RC LC
	0C	1D	2E	3F	50	61	1	DETUNE/RATE SCALING	PD RS
	0D	1E	2F	40	51	62	1	TOUCH SENSITIVITY/AMPLITUDE MODULATION SENSITIVITY	- TS AMS
	0 E	1F	30	41	52	63	1	TOTAL LEVEL	TL
	0F	20	31	42	53	64	1	FREQUENCY COURSE/FREQUENCY MODE	PC PM
	10	21	32	43	54	65	1	FREQUENCY FINE	PF
						66	1	PEG RATE1	PR1
						67	1	PEG RATE2	PR2
						68	1	PEG RATE3	PR3
						69	1	PEG RATE4	PR4
						6A	1	PEG LEVEL1	PL1
						6B	1	PEG LEVEL2	PL2
						6C	1	PEG LEVEL2 PEG LEVEL3	PL3
						6D	1	PEG LEVEL4	PL4
						00	Ŧ	LP2 TEAPT4	11.4

6E	1	ALGORITHM SELECTOR	_	ALS	
6F	1	OSC PHASE INIT / FEEDBACK LEVEL	_	OPI	FBL
70	1	LFO SPEED		LFS	
71	1	LFO DELAY TIME		LFD	
72	1	PITCH MODULATION DEPTH		LPMD	
73	1	AMPLITUDE MODULATION DEPTH		LAMD	
74	1	LFO PITCH MODULATION SENSITIVITY / LFO WAVE / LFO KEY SYNC	LPMS	LFW	LFKS
75	1	TRANSPOSE		TRNP	
76	1	VOICE NAME		VNAM1	
77	1	VOICE NAME		VNAM2	
78	1	VOICE NAME		VNAM3	
79	1	VOICE NAME		VNAM4	
7A	1	VOICE NAME		VNAM5	
7B	1	VOICE NAME		VNAM6	
7C	1	VOICE NAME		VNAM7	
7D	1	VOICE NAME		VNAM8	
7E	1	VOICE NAME		VNAM9	
7F	1	VOICE NAME		VNAM10	
TOTAL SIZE 1000 (80h X 20h =	10001	1)			

arameter#		Size	Parameter	Descrip	otion		
(H)		(H)			BIT5 BIT4 BIT3	BIT2 BIT1	BIT
	0.0	1	NOT USED	5110		10112 0111	1011
	01	1	AMPLITUDE MODULATION SENSITIVITY	_	OP5	OP6	_
	02	1	AMPLITUDE MODULATION SENSITIVITY		OP3	OP4	
	03	1	AMPLITUDE MODULATION SENSITIVITY	_	OP1	OP2	
	04	1	RANDOM PITCH / PEG VELOCITY SW / LFO KEY TRIGGER / PEG RANGE				EGR
	05	1	PITCH BEND RANGE / POLY/MONO, UNISON SWITCH		PBR	PMOI	
	06	1	PITCH BEND STEP			PBS	-
	07	1	PORTAMENTO STEP / PORTAMENTO MODE	_	– PO	NT	PC
	08	1	PORTAMENTO TIME		POS		1
	09	1	NOT USED				
	0A	1	NOT USED		_		
	0B	1	NOT USED		_		
	0C	1	NOT USED		_		-
	0D	1	NOT USED		_		_
	0 E	1	NOT USED		_		_
	OF	1	NOT USED		_		
	10	1	NOT USED		_		
	11	1	NOT USED		_		_
	12	1	NOT USED		_		
	13	1	NOT USED		_		
	14	1	NOT USED		_		
	15	1	NOT USED		_		
	16	1	NOT USED		_		
	17	1	NOT USED		_		
	18	1	PITCH EG RATE SCALING DEPTH		_	PGRS	;
	19	1	NOT USED		_		
	1A	1	NOT USED		_		
	1B	1	NOT USED		_		_
	1C	1	NOT USED		_		
	1D	1	NOT USED		_		
	1E	1	NOT USED		—		
	1F	1	NOT USED		_		
	20	1	NOT USED		_		
	21	1	NOT USED		_		
	22	1	UNISON DETUNE DEPTH		_	UDTN	1

Please check the items below when your PLG100-DX isn't generating sounds or when it isn't functioning normally. Also, when the current status of the settings for your PLG100-DX isn't clear, it's a good idea to turn the power off, then on again (returning the settings to their defaults), and try entering your settings again.

The PLG100-DX doesn't produce sounds

- Are the MU128 and the playback equipment (such as speakers or headphones) correctly connected?
- Is the PLG100-DX board properly mounted in the XG plug-in connector? Take a look at the pages in your XG tone generator manual that explain how to install the board.
- Are the volume and expression for the part selected for the PLG100-DX voice raised to the proper level?
- Is the carrier output level set at -64? (\rightarrow P. 22)
- This may happen when voices are placed in the custom bank and edited with the DX Simulator. Check the settings.

In Multipart Edit, the "PLUGIN" menu doesn't appear.

• Is the PLG100-DX correctly installed?

The pitch is not right

- Has note shift or transpose information been set?
- This may happen when voices are placed in the custom bank and edited with the DX simulator. Check the settings.

Notes won't stop playing

• Because EG Release Level (L4) is set for the voices below, they won't stop playing, even when a Note Off is received (The same applies to the custom bank).

MSB	LSB	Program Ch.	Voice Name
83	0	52	DX Grw12
83	0	82	DX-Train
83	0	91	MobyDick
83	0	123	ManEater

NOTE . If you switch voices, the sound will stop.

The vibrato is different for each voice

• This happens because an appropriate LFO Mode is set for each voice. When a chord is played with some voices, vibrato is applied individually to match the dynamics for the way each key was played. For other voices, the same vibrato that was applied for the dynamics of the first key played will be applied to all notes.

Notes sound different for each Note ON

• Because an appropriate oscillator sync is set for each voice, phase shift occurs between the operators. Depending on the voice, the sound may be slightly different each time a key is played.

Date:20MAR-1998 Version : 1.0	Remarks	Memorized						Bank Select Data Entry Sound Controller RPN Inc,Dec NRPN LSB,MSB RPN LSB,MSB
in Board] Implementation Chart	Recognized	1 - 16 1 - 16	3, 4 (m=1) *2 x	0 - 127 0 - 127	o 9nH,v=1-127 x	0 * * 1 * 1	o 0-24 semi *1	0000000
Plug- MIDI	Transmitted	××	X X *********	X * * * * * * * * * * * *	x	x	×	* * * * * * *
YAMAHA [Advanced DX/TX Model PLG100-DX	Function	Basic Default Channel Changed	Default Mode Messages Altered	Note Number : True voice	Velocity Note ON Note OFF	After Key's Touch Ch's	Pitch Bender	1,5,7,10,11 6,38 64-66 71-74 Control 96-97 98-99 Change 100-101

Prog Change : True #	X X * * * * * * * * * * * *	o 0 - 127	
System Exclusive	o *3	°*	
: Song Pos Common : Song Sel : Tune	× × ×	× × ×	
System :Clock Real Time :Commands	×	x	
Aux : All Sound Off :Reset All Chtrls Mes- :Local ON/OFF sages:All Notes OFF :Active Sense :Reset	****	o(120,126,127) o(121) x o(123-125) x	
Notes: *1 receive if *2 m is always *3 transmit/re	switch i treated ceive if	regardless ive switch j	of its value. s on.
Mode 1 : OMNI ON, F Mode 3 : OMNI OFF, F	POLY Mode 2 : POLY Mode 4 :	OMNI ON, MONO OMNI OFF, MONO	o : Yes x : No



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