PCI SOUND CARD

WAVEFORCE™

ONLINE MANUAL

Yamaha WAVEFORCE WF192XG Installation Wizard License Agreement

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The screen displays as illustrated in this manual are for instructional purposes, and may appear somewhat different from the screens which appear on your computer.

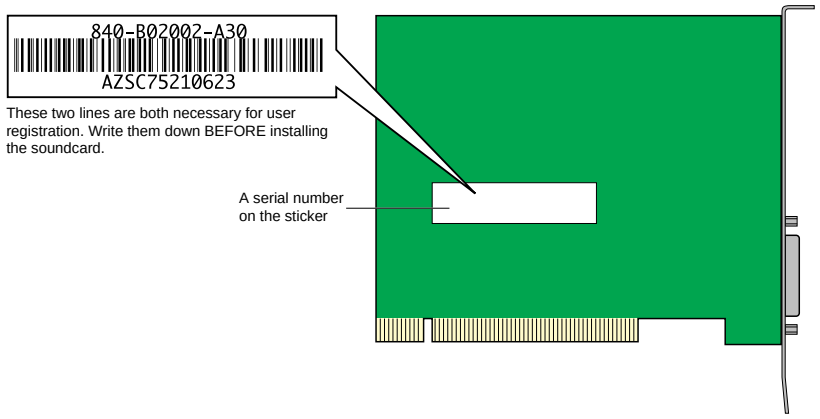
Preface

Thank you for buying Yamaha WAVEFORCE (WF192XG) package. This product is designed to enhance and integrate your DOS/Windows computer's sound and music capabilities in combination of the high-quality sound hardware and a wide variety of application software. The WAVEFORCE soundcard can provide audio signal mixing feature plus its onboard XG wavetable synthesizer (with S-VA physical modeling voices), maintaining downward compatibility to Yamaha OPL3 FM audio, SoundBlaster Pro 16-bit audio, MPU401 UART MIDI interface mode and joystick or game pad connecting features. You can soon and fully enjoy the features of this soundcard with several kinds of applications included in the package. Before using your new soundcard and bundled software, please read this manual thoroughly. Also, keep this manual in a safe location for future reference.

NOTE Yamaha OPL3 FM audio is not available under Windows 95. It is available only in MS-DOS real mode, DOS box (Windows DOS emulation) and Windows NT.

User Registration

User registration is important to prove that you are a legal user of the product and have a right to receive a technical support and other useful information from Yamaha. This registration should be done online via Internet at Yamaha's WAVEFORCE web site (http://www.waveforce.com) using a serial number labeled on the soundcard so that you should write down the number before installation of the card.



NOTE If the user registration card is contained in your WAVEFORCE package, the registration can be done by filling in the card and posting it.

User Support Service

User support service is available if your user registration is completed.

Registered users can receive the following services:

- **Driver software update**
- **Useful information**
- **Technical support**

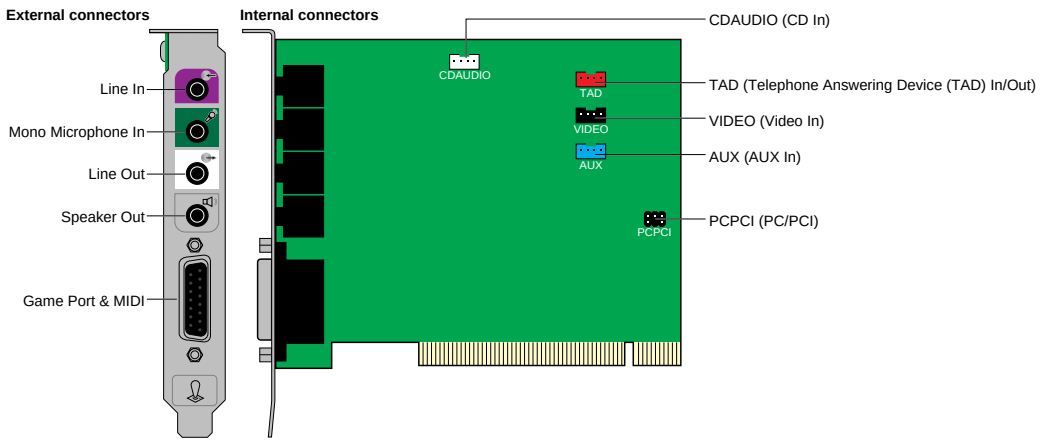
For details on the technical support service, see Yamaha's WAVEFORCE web site (http://www.waveforce.com).

Installation of the SoundCard

Installation of the card must be done in the following procedure:

NOTE Notice that installation of the card requires an empty PCI card slot in your computer. If you use a PCI slot that has been occupied with another card, first remove the driver software for that card, turn off the computer to remove the card, and then reboot the computer to forcibly recognize that the old card is not there. After completion of this process, turn off the computer and start the following installation process for the new card.

1. Referring to the manual that came with your computer, as explained in "Consulting on Documentation" of the paper document (Getting Started) in the package, prepare for installation of the card inside your computer.
2. Open the antistatic bag and take out the card while holding it by its edge to avoid touching metal PCI connectors and electronic components on the card.
3. Locate a sticker put on the card that is printed with a card's serial number. Make a note of the number for online registration, as explained in "User Registration" above.
4. Make sure the location of internal connectors on the card that attach with appropriate connectors from the internal devices of the computer (audio lines from CD-ROM drive, Modem card, video card). Each location of the card's connector is as follows:



Line In (Stereo mini-jack)

Tip	Left channel
Ring	Right channel
Sleeve	Ground

Mono Microphone In (Stereo mini-jack)

Tip	Mic In
Ring	Power supply
Sleeve	Ground

Line Out (Stereo mini-jack)

Tip	Left channel
Ring	Right channel
Sleeve	Ground

Speaker Out (Stereo mini-jack)

Tip	Left channel
Ring	Right channel
Sleeve	Ground

Game Port & MIDI

1	+5V
2	Joystick A Button 1
3	Joystick A X-coordinate
4	GND
5	GND
6	Joystick A Y-coordinate
7	Joystick A Button 2
8	+5V
9	+5V
10	Joystick B Button 1
11	Joystick B X-coordinate
12	MIDI Out
13	Joystick B Y-coordinate
14	Joystick B Button 2
15	MIDI In

CDAUDIO

1	CD Ground
2	Left channel
3	CD Ground
4	Right channel

TAD

1	Phone In
2	Ground
3	Ground
4	Mono Out

VIDEO

1	Left channel
2	Ground
3	Ground
4	Right channel

AUX

1	Left channel
2	Ground
3	Ground
4	Right channel

PCPCI

1	PC/PCI Grant #
2	Ground
3	
4	PC/PCI Request #
5	Ground
6	Serialized IRQ #

Connect this socket to your mother board if you wish to reproduce the sound from a DOS game in MS-DOS real mode.

❺ Making necessary internal connections between the card and devices, attach the card to the PCI card slot in the computer. Make sure that the card is firmly seated in the appropriate direction. Do not force on the card if you feel it does not fit to the slot. Reconfirm first that you are attempting with a correct slot referring to the manual that came with your computer, and then retry.

❻ After internal connections, make external connections with your peripheral devices (speakers, microphone, MIDI keyboard, etc.).

Installation of the Driver Software

The soundcard will not work until you install appropriate driver software (Yamaha DS-XG driver) and reboot the computer. Follow the instructions below to install the appropriate DS-XG driver.

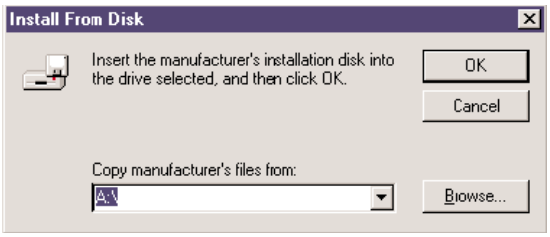
NOTE Different driver software should be installed to a different version of Windows 95. Say, Windows 95 OEM System Release 2 (aka., OSR2) requires driver software other than for pre-OSR2 version of Windows 95.

Installing the DS-XG Driver Software for Windows 95 (4.00.950 or 4.00.950a)

The WAVEFORCE soundcard is a Windows 95 Plug-and-Play device. Once the soundcard is installed and your computer is rebooted, Windows 95 will automatically detect the device and start the Install Wizard. The New Hardware Found window will appear as shown below.

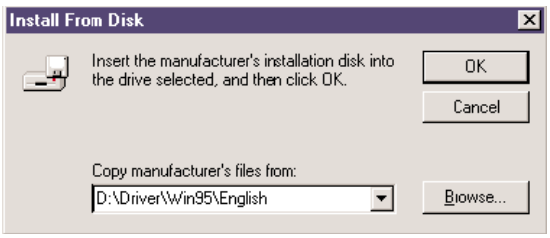
❶ Insert the WF192XG Installation Wizard CD-ROM in your CD drive, select “Driver from disk provided by hardware manufacture” and click the [OK] button to continue.

❷ Windows95 asks you to insert a floppy disk. But the drivers are supplied by CD-ROM, click the [Browse] button.



❸ Select CD-ROM drive and the folder “drivers\win95\English”. Then click the [OK] button.

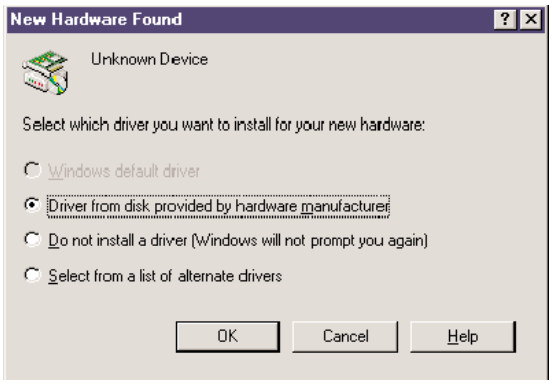
NOTE The folder “drivers\win95\Italian” and “drivers\win95\Spanish” are also available instead of “\English”.



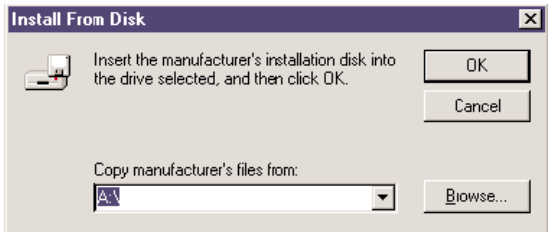
This completes the installation process of the DS-XG Device Manager. Consecutively, install the device drivers for PCI Audio Codec, Legacy Sound System and Legacy Game Port.

Installing the Device Drivers for PCI Audio Codec, Legacy Sound System and Legacy Game Port

❶ Once the DS-XG Device Manager installation is complete, the New Hardware Found window will appear as shown below. Insert the WF192XG Installation Wizard CD-ROM in your CD drive now. Select “Driver from disk provided by hardware manufacturer” and click the [OK] button to continue.



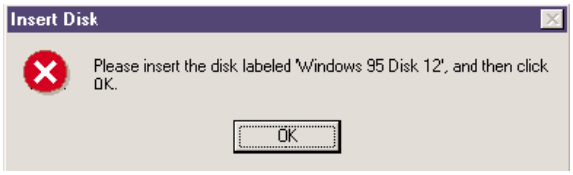
❷ Windows95 asks you to insert a floppy disk. But the drivers are supplied by CD-ROM, click the [Browse] button.



❸ Select CD-ROM drive and the folder “drivers\win95\English”. Then click the [OK] button.

NOTE The folder “drivers\win95\Italian” and “drivers\win95\Spanish” are also available instead of “\English”.

❹ If you have never installed the joystick driver, a message below appears. Insert Windows95 CD-ROM or disk, click the [OK] button and install the joystick driver.



This completes all the installation procedures.

Verifying the DS-XG Driver Installation

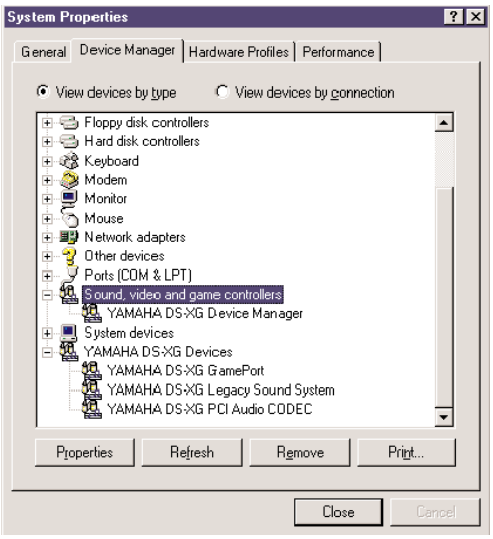
To see if the DS-XG device driver has been installed successfully, complete the following steps:

❶ Click the [Start] button on the Windows taskbar.

❷ Highlight [Settings] and click [Control Panel].

❸ The Control Panel now appears. Double-click the “System” icon.

❹ The System Properties window now appears. Click on the “Device Manager” tab as shown below. The Device Manager page now appears as shown.



❺ In the hierarchical directory structure illustrated above, double-click on “Sound, video and game controllers” and verify that “YAMAHA DS-XG Device Manager” is listed as shown.

❻ Double-click on “YAMAHA DS-XG Devices” and verify that the following devices are listed as illustrated above.

- YAMAHA DS-XG GamePort
- YAMAHA DS-XG Legacy Sound System
- YAMAHA DS-XG PCI Audio CODEC

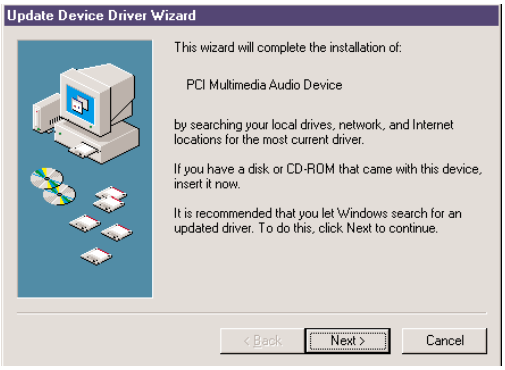
♪NOTE There may be an exclamation mark (!) shown next to one of above device names when you have another sound device installed, in addition to the WAVEFORCE card. The exclamation mark shows that the WAVEFORCE card conflicts the existing sound device. To solve this problem, you should take either of the following:

- Remove the driver software of the conflicting device.
- Manually adjust the resource configuration (IRQ or so on) of the conflicting device.

♪NOTE If the DS-XG device driver has not been installed successfully, uninstall it (→P.28) and retry the installation.

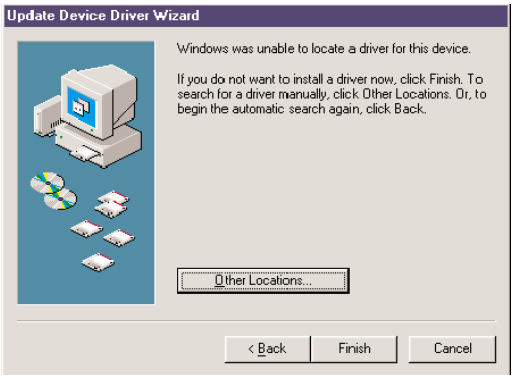
Installing the DS-XG Driver Software for Windows 95 OSR2 (4.00.950b)

The WAVEFORCE soundcard is a Windows 95 Plug-and-Play device. Once the soundcard is installed and your computer is rebooted, Windows 95 will automatically detect the device and start the Install Wizard. The Updated Device Driver Wizard window will appear as shown below.

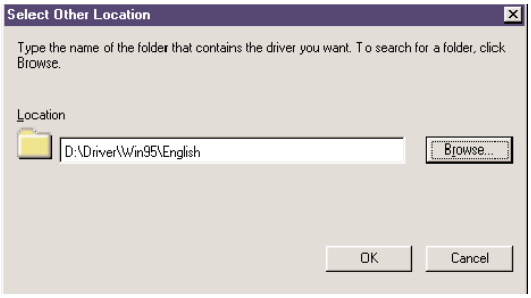


❶ Insert the WF192XG Installation Wizard CD-ROM in your CD drive and click the [Next] button to continue.

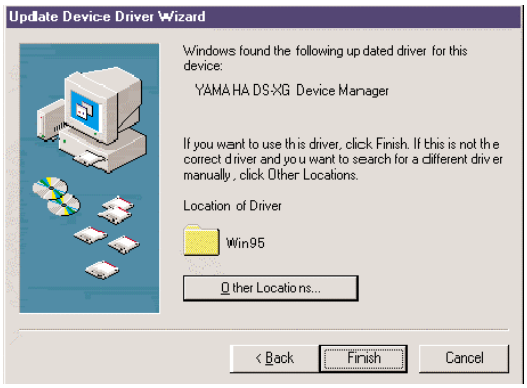
❷ The information displayed in Update Device Driver Wizard window will now change as shown below. Click the [Other Locations] button to continue.



❸ Click the [Browse] button, select CD-ROM drive and the folder “Drivers\Win95\English”. Then click the [OK] button.



❹ The information displayed in the Updated Device Driver Wizard window will now change as shown below. Verify that “YAMAHA DS-XG Device Manager” is displayed as shown and click the [Finish] button.

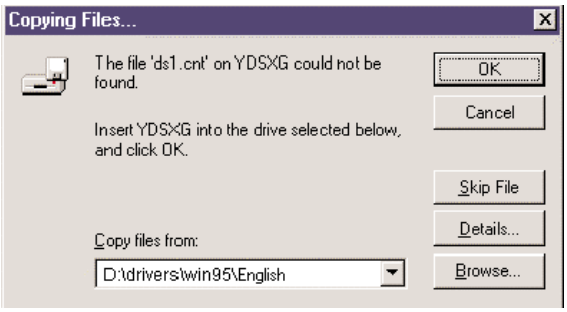


❺ The Insert Disk window will now appear as shown below and you will be prompted to insert a disk. Simply click the [OK] button to continue.

❻ Windows 95 will now copy the necessary files to your computer. If the Copying Files window appears as shown below, then edit the path box with the following values:
D:\drivers\win95\English

♪NOTE If your CD drive is other than “D”, input the actual drive in the path box. (e.g. “E:\drivers\win95\English” “F:\drivers\win95\English”)

♪NOTE The folder “drivers\win95\Italian” and “drivers\win95\Spanish” are also available instead of “\English”.

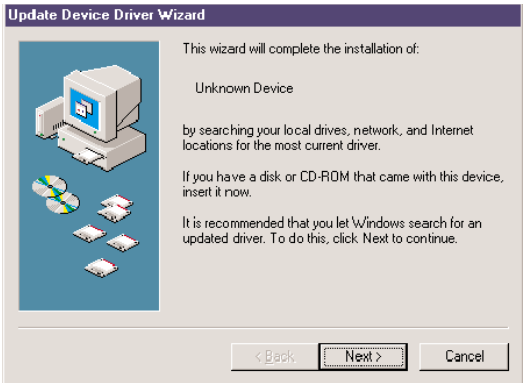


Click the [OK] button to continue with the installation.

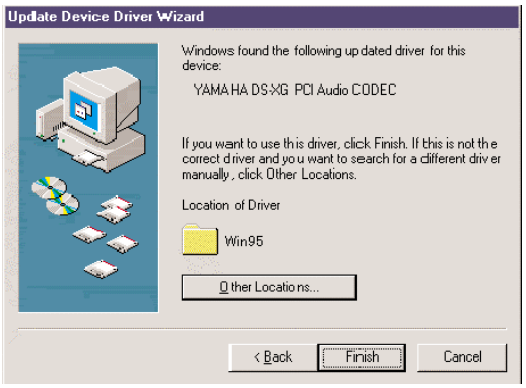
This completes the installation process of the DS-XG Device Manager.
Consecutively, install the device drivers for PCI Audio Codec, Legacy Sound System and Legacy Game Port.

Installing the Device Drivers for PCI Audio Codec, Legacy Sound System and Legacy Game Port

❶ Once the DS-XG Device Manager installation is complete, the Update Device Driver Wizard window will appear as shown below. Insert the WF192XG Installation Wizard CD-ROM in your CD drive and click the [Next] button to continue.



❷ The information displayed in the Updated Device Driver Wizard window will now change as shown below. Verify that “YAMAHA DS-XG PCI Audio CODEC” is displayed as shown and click the [Finish] button.



❸ If you have never installed the joystick driver, a message below appears. Insert Windows95 CD-ROM or disk, click the [OK] button and install the joystick driver.

This completes all the installation procedures.

Verifying the DS-XG Driver Installation

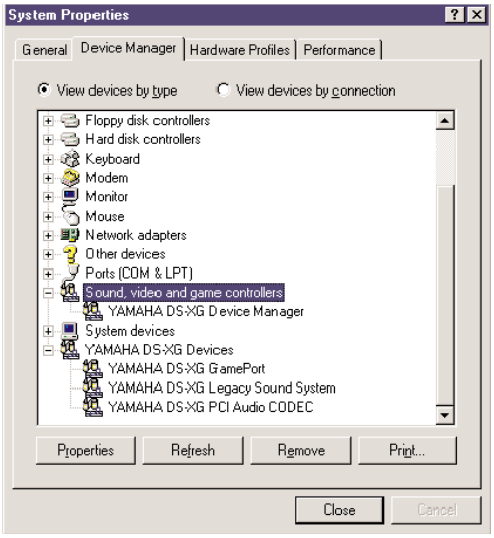
To see if the DS-XG device driver has been installed successfully, complete the following steps:

❶ Click the [Start] button on the Windows taskbar.

❷ Highlight [Settings] and click [Control Panel].

❸ The Control Panel now appears. Double-click the “System” icon.

❹ The System Properties window now appears. Click on the “Device Manager” tab as shown below. The Device Manager page now appears as shown.



❺ In the hierarchical directory structure illustrated above, double-click on “Sound, video and game controllers” and verify that “YAMAHA DS-XG Device Manager” is listed as shown.

❻ Double-click on “YAMAHA DS-XG Devices” and verify that the following devices are listed as illustrated above.

- YAMAHA DS-XG GamePort
- YAMAHA DS-XG Legacy Sound System
- YAMAHA DS-XG PCI Audio CODEC

♪NOTE There may be an exclamation mark (!) shown next to one of above device names when you have another sound device installed, in addition to the WAVEFORCE card. The exclamation mark shows that the WAVEFORCE card conflicts the existing sound device. To solve this problem, you should take either of the following:

- Remove the driver software of the conflicting device.
- Manually adjust the resource configuration (IRQ or so on) of the conflicting device.

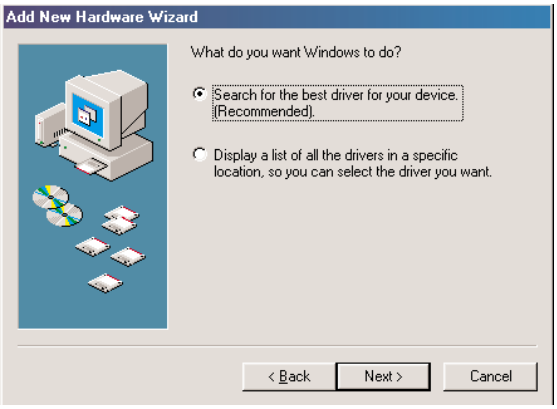
♪NOTE If the DS-XG device driver has not been installed successfully, uninstall it (→P.28) and retry the installation.

Installing the DS-XG Driver Software for Windows 98 ver.1.0

The WAVEFORCE soundcard is a Windows 98 Plug-and-Play device. Once the soundcard is installed and your computer is rebooted, Windows 98 will automatically detect the device and start the Install Wizard. The Add New Hardware Wizard window will appear as shown below.

❶ Insert the WF192XG Installation Wizard CD-ROM in your CD drive and click the [Next] button to continue.

❷ The information displayed in Add New Hardware Wizard window will now change as shown below. Select “Search for the best driver for your device. (Recommended).” and click the [Next] button.



❸ Select “CD-ROM drive” and click the [Next] button.

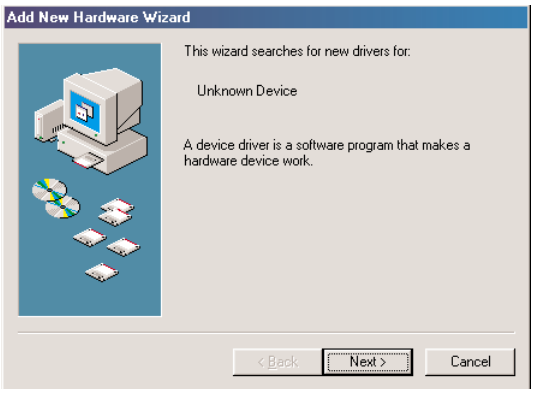
❹ Windows 98 will now search for the DS-XG Device Manager by scanning the CD-ROM automatically. Verify that “YAMAHA DS-XG Device Manager” is displayed in the Add New Hardware Wizard window as shown below and click the [Next] button.

❺ The Add New Hardware Wizard window will tell you that “Windows has finished installing the software” as shown below. Click the [Finish] button.

This completes the installation process of the DS-XG Device Manager.
Consecutively, install the device drivers for PCI Audio Codec, Legacy Sound System and Legacy Game Port.

Installing the Device Drivers for PCI Audio Codec, Legacy Sound System and Legacy Game Port

❶ Once the DS-XG Device Manager installation is complete, the Add New Hardware Wizard window will appear as shown below. Insert the WF192XG Installation Wizard CD-ROM in your CD drive and click the [Next] button to continue.

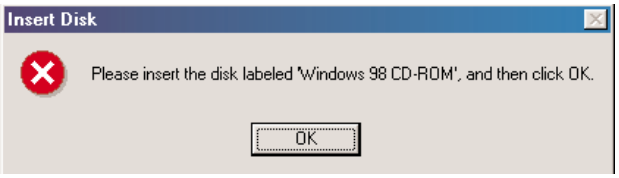


❷ The information displayed in Add New Hardware Wizard window will now change as shown below. Select “Search for the best driver for your device. (Recommended).” and click the [Next] button.

❸ Select “CD-ROM drive” and click the [Next] button.

❹ Windows 98 will now search for the DS-XG PCI Audio Codec by scanning the CD-ROM automatically. Verify that “YAMAHA DS-XG PCI Audio Codec” is displayed in the Add New Hardware Wizard window as shown below and click the [Next] button.

❺ If you have never installed the joystick driver, the Insert Disk window appears. Insert Windows 98 CD-ROM, click the [OK] button and install the joystick driver.



This completes all the installation procedures.

Verifying the DS-XG Driver Installation

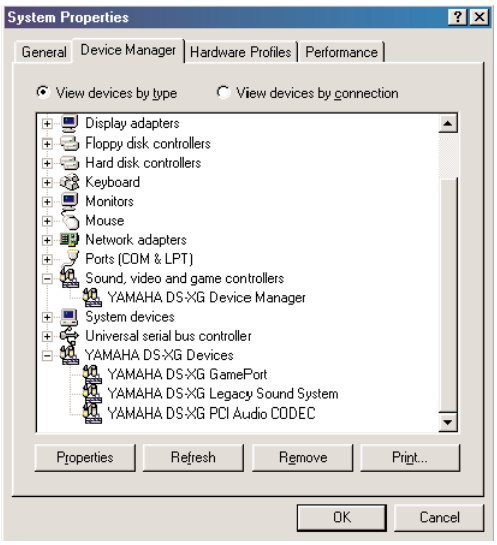
To see if the DS-XG device driver has been installed successfully, complete the following steps:

❶ Click the [Start] button on the Windows taskbar.

❷ Highlight [Settings] and click [Control Panel].

❸ The Control Panel now appears. Double-click the “System” icon.

❹ The System Properties window now appears. Click on the “Device Manager” tab as shown below. The Device Manager page now appears as shown.



❺ In the hierarchical directory structure illustrated above, double-click on “Sound, video and game controllers” and verify that “YAMAHA DS-XG Device Manager” is listed as shown.

❻ Double-click on “YAMAHA DS-XG Devices” and verify that the following devices are listed as illustrated above.

- YAMAHA DS-XG GamePort
- YAMAHA DS-XG Legacy Sound System
- YAMAHA DS-XG PCI Audio CODEC

♪ NOTE There may be an exclamation mark (!) shown next to one of above device names when you have another sound device installed, in addition to the WAVEFORCE card. The exclamation mark shows that the WAVEFORCE card conflicts the existing sound device. To solve this problem, you should take either of the following:

- Remove the driver software of the conflicting device.
- Manually adjust the resource configuration (IRQ or so on) of the conflicting device.

♪ NOTE If the DS-XG device driver has not been installed successfully, uninstall it (→P.28) and retry the installation.

Installing the DS-XG Driver Software for Windows NT 4.0

This section explains the procedures for installing the DS-XG device driver software on your computer.

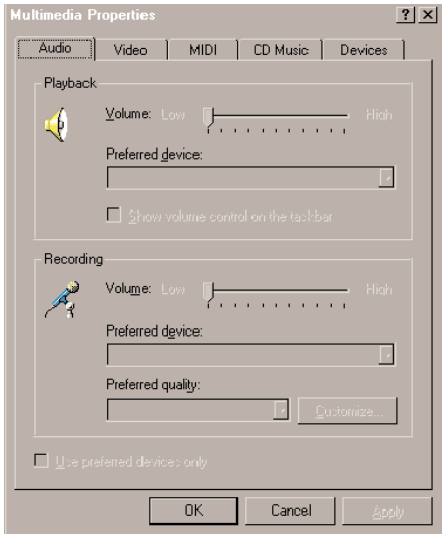
❶ Log on to Windows NT 4.0.

❷ Click the [Start] button on the Windows taskbar.

❸ Highlight [Settings] and click [Control Panel].

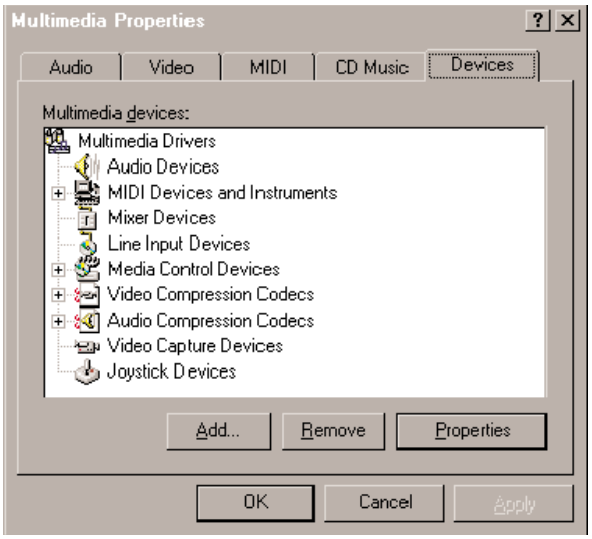
❹ The Control Panel now appears. Double-click the “Multimedia” icon.

❺ The Multimedia Properties window now appears as shown below. Click on the “Devices” tab.

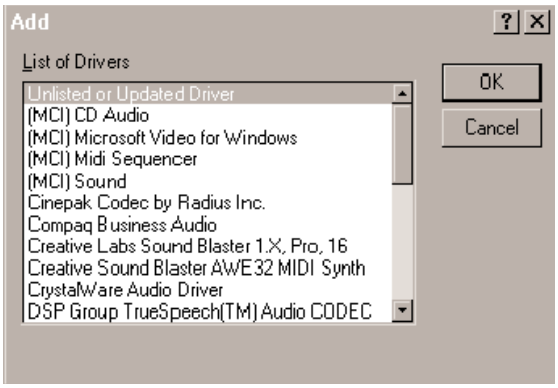


❻ The Devices page is now displayed as shown below. Verify that your computer does not contain any existing DS-XG audio devices and then click the [Add] button.

♪ NOTE Verify if DS-XG audio devices exist by double-clicking the “Audio Devices” icon. If any drivers are listed, you will need to uninstall the device by selecting it and then clicking the [Remove] button. Click the [Yes] button to confirm and then the [Restart Now] button to restart your computer. Once you log on to Windows NT4.0 again, open the “Devices” page and continue with the next step.



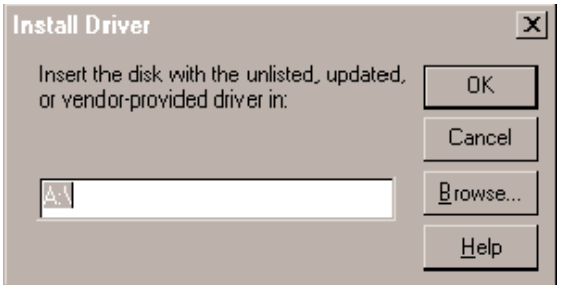
❼ The “Add” window now appears. Highlight “Unlisted or Updated Driver” by clicking on it as shown below. Click the [OK] button.



❽ The “Install Driver” window now appears as shown below. Insert the WF192XG Installation Wizard CD-ROM in your CD drive. In the path box, type:

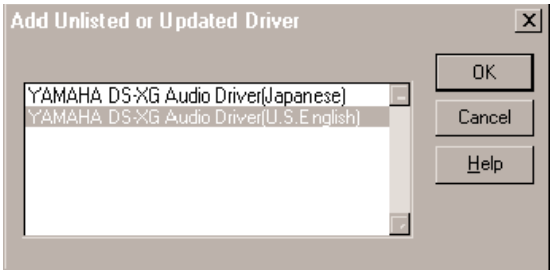
D:\drivers\winnt

NOTE If your CD drive is other than “D”, input the actual drive in the path box. (e.g. “E:\drivers\winnt” “F:\drivers\winnt”)

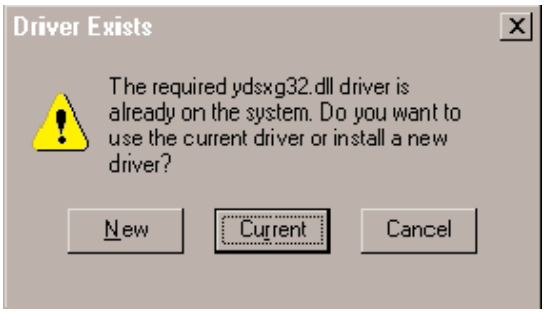


Click the [OK] button to continue.

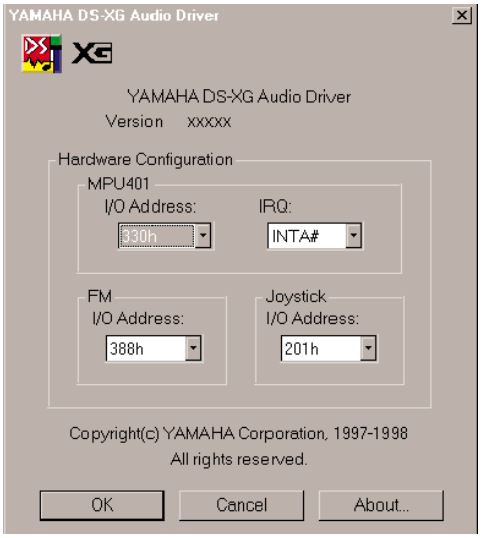
❾ The “Add Unlisted or Updated Driver” window now appears prompting you to select a language. Click on the desired language in the list and click the [OK] button as shown below.



⓾ If the “Driver Exists” window appears as shown below, click the [New] button to overwrite the existing driver.



⓫ Windows NT will now copy the necessary files to your computer. When the “YAMAHA DS-XG Audio Driver” window appears, verify that the MPU401 I/O address, IRQ, FM I/O address and Joystick I/O address settings are correct as shown below. Click the [OK] button to continue.



♪ NOTE In case any of the above settings (for the MPU401 I/O address, FM I/O address and Joystick I/O address) conflict with address settings of other devices, change the values for above settings to avoid any conflict.

♪ NOTE You don’t need to change the default IRQ setting (INTA#) for MPU401. However, when attaching the WF192XG soundcard to the motherboard using the PC/PCI cable provided, to play a DOS game in DOS real mode, you should change the above IRQ setting to match the one that DOS game requires.

⓬ The “System Setting Change” window will now appear as shown below and you will be prompted to restart your computer. Click the [Restart Now] button.

Your computer will now restart. This completes the installation of the DS-XG device drivers.

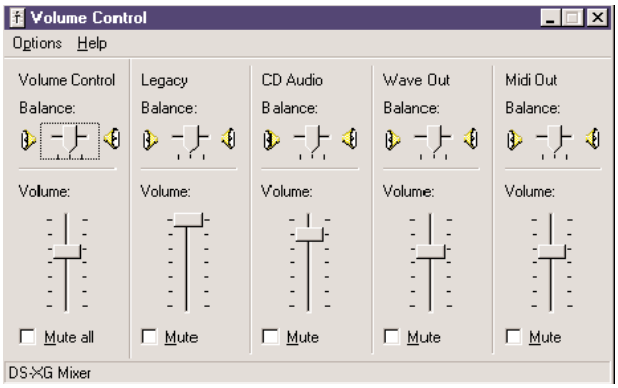
Select “MIDI for YAMAHA DS-XG Synthesizer” for MIDI output device in the Control Panel’s Multimedia Properties.

Adjusting the DS-XG Mixer Control Settings

Once all DS-XG device drivers are installed, you can use the Windows standard volume control to adjust the volume level of selected audio devices by following the procedures in this section.

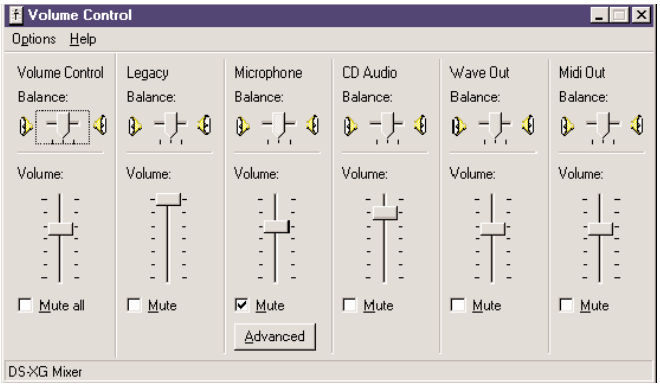
❶ Click on the Speaker icon located in the bottom rightmost corner of the Windows taskbar.

❷ The DS-XG mixer control starts and the Volume Control window is displayed as shown below.

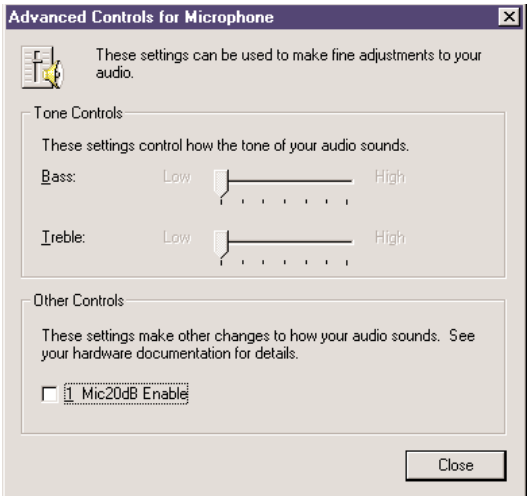


❸ Adjust the volume as desired for each audio device by dragging the slide-bars vertically. You may also click on [Options] in the menu bar and then click on [Properties].

❹ To access the advanced controls for the Microphone device, first click on the “Mute” box and then click the [Advanced] button as below.



❺ The “Advanced Control for Microphone” window will now appear as shown below. If you wish to enable the Mic20dB setting for your microphone, then click on “Mic20dB Enable” box.



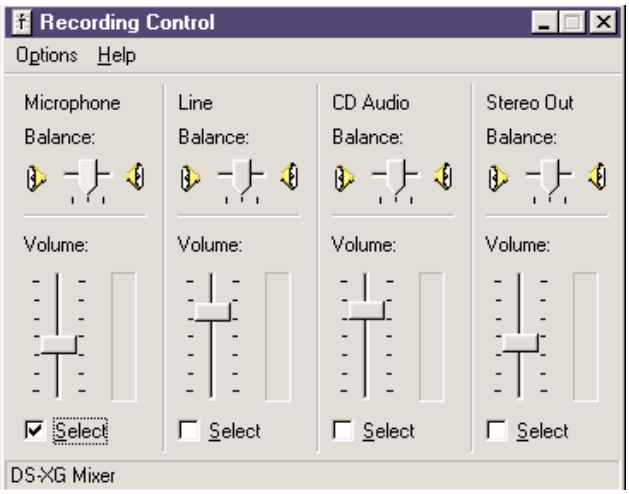
Adjusting the Volume of Recording Devices

This section explains how to use the Windows standard volume control to adjust the volume of recording devices in your computer.

NOTE The procedures in this section assume that the DS-XG Mixer is already started and the Volume Control window is already displayed. If this is not the case, refer to the steps illustrated above for the necessary steps to reach this stage.

❶ To access the volume control for recording device, click on [Options] in the menu bar and then click on [Properties].

❷ Click on “Recording”. The Recording Control window will now appear as shown below.



❸ Adjust the volume as desired for each recording device by dragging the slide-bars vertically.

DS-XG Driver Configuration

After the DS-XG Driver is installed, the “YAMAHA DS-XG Audio Config.” icon will be located in the Windows’ Control Panel. You can open the configuration dialog box by double-clicking the icon.

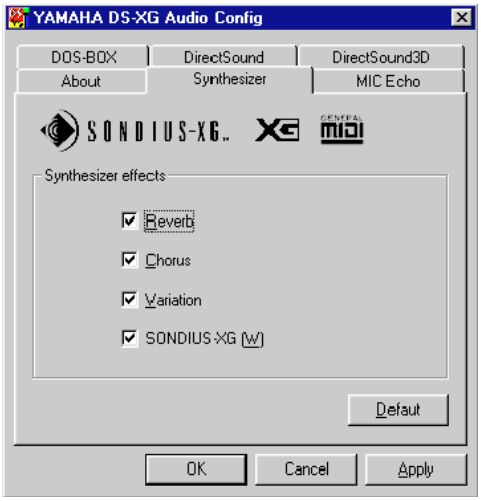
NOTE On Windows NT4.0, only “About” and “Synthesizer” pages are available.

1. About

This field shows the driver’s version information and its copyright notice.

If you click [Help], the help for the DS-XG driver configuration will be displayed.

2. Synthesizer



NOTE On Windows NT4.0, “SONDIUS-XG” check box is not available.

This field has a mechanism to provide MIDI synthesizer with a variety of magnificent effects such as reverberation, chorus and variation effects in order to enhance acoustic sound variations richly. You can select any desired effects among options by clicking the corresponding check boxes respectively. The MIDI synthesizer is based on the AWM2(Advanced Wave Memory 2) wavetable sound generation method, and fully supports the XG specification proposed by YAMAHA. Addition of the optional SONDIUS-XG makes it possible to use virtual acoustic sources (S-VA voices).

* SONDIUS-XG(http://www.sondius-xg.com) is a registered trademark that Stanford University in the United States and YAMAHA Corporation hold jointly.
* GM is a registered trademark of Association of Musical Electronics Industry(AMEI).
* XG is a registered trademark of Yamaha Corporation.

Reverb
This adds a striking reverberation (resounding) effect to the acoustic sound just as if it could give you echo-back sound with concert-hall ambience.

NOTE This effect is only available for MIDI sounds, not for other audio sounds.

Chorus
This adds a chorus-swelling and spreading effect to the musical sound.

NOTE This effect is only available for MIDI sounds, not for other audio sounds.

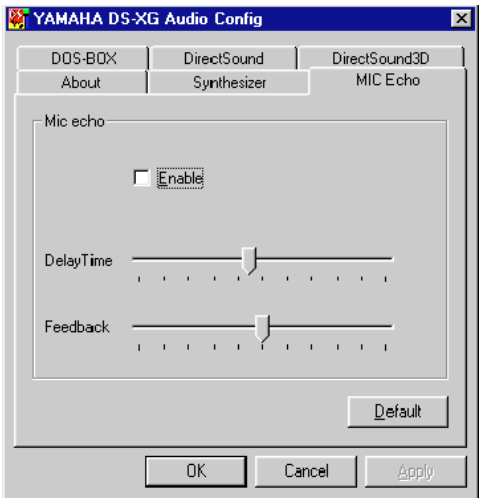
Variation
This is one of the effects available in compliance with the YAMAHA XG standard specification, and achieves some certain sound effects with capabilities such as distortion, overdrive, etc. including Reverberation and Chorus features.

NOTE This effect is only available for MIDI sounds, not for other audio sounds.

SONDIUS-XG
The SONDIUS-XG produces acoustic sound outputs by running a virtual simulation of the actual acoustic instrument operation. Therefore, it provides much more real-world acoustic sound outputs fundamentally different from the AWM2 wavetable sound generator that simply processes the recorded acoustic sound sources only. The DS-XG supports a single virtual acoustic sound source like this, and deals with the virtual acoustic sound signals called “S-VA voices” with MIDI data.

The SONDIUS-XG runs on PC with Pentium II/233MHz or higher.

3. MIC Echo



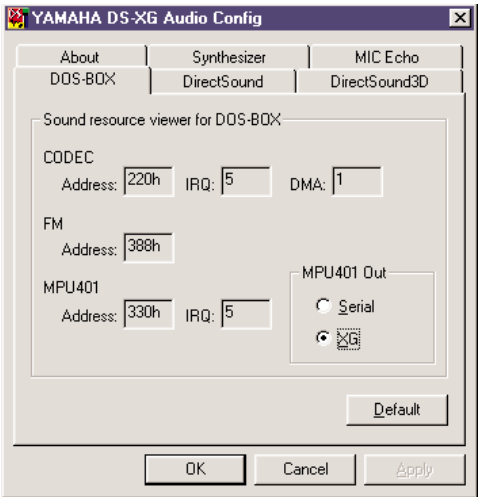
This field provides a mechanism for applying a Mic echo sound effect to the microphone input. In addition, it enables any changes of Mic echo setting status.

Enable
You can check this box when it is desirable to apply a Mic echo sound effect to the microphone input. Use of Mic echo is disabled during the period of recording. Recording is disabled while Mic echo is being used. Mic echo sound effect will always become invalid after Windows is started up. Volume control should be performed via microphone input with Windows' standard volume control capability.

Delay Time
This sets up a Mic echo repetitive cycle period. Moving a slide bar toward the right direction lengthens a cycle period.

Feedback
This sets up a Mic echo duration period of time. Moving a slide bar toward the right direction lengthens a duration time.

4. DOS-BOX



This provides a mechanism to fully support the DOS applications for the Windows DOS-BOX.

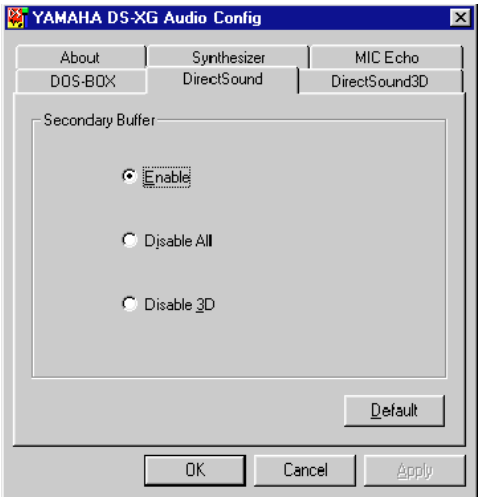
MPU401 Out
This field has a mechanism to transfer MIDI data, which is delivered to the MPU401 as output from the DOS applications, to either MIDI port interface or internal XG synthesizer.

NOTE You should adjust the IRQ or DMA configuration of a DOS game to match the configuration in this field.

Serial
Checking this box outputs MIDI data externally through the MPU401 compatible MIDI port.

XG
Checking this box transfers MIDI data to internal XG synthesizer for producing the acoustic sound outputs. Volume control is performed via MIDI with Windows' standard volume control capability.

5. DirectSound



This field provides a mechanism to select the hardware accelerator or software for handling the DirectSound application.
The hardware accelerator makes a lower CPU utilization. However, if the application does not work properly with the hardware accelerator, please click the “Disable All” checkbox and the software will take care of this trouble.

NOTE Please DO NOT click the checkbox while application is being used.

Enable
Checking this box follows to use the hardware accelerator for handling the DirectSound application.

Disable All
Checking this box follows to use the software for handling the DirectSound application.

Disable 3D
Checking this box follows to disable 3D acceleration.

6. DirectSound3D

This field provides a mechanism to fully support the 3D positional stereo audio mode on the basis of the Sensaura technology developed by CRL Corp. in England. Selecting this feature makes it possible to enjoy invariable and unchangeable sound feelings in all-positional area covering as wide as 360 degrees with stereo speakers and a headphone. Generally such a 3D acoustic sound output can be routed to stereo speakers or a headphone under the DirectSound 3D settings. However, forced 3D sound output routing changeover option is available for applications where such an output routing changeover is partly unable.

♪ NOTE Sensaura is a registered trademark of CRL Corp. in England.

Headphone
Checking this box forces the 3D sound mode to change over to optimal one for the headphone. Output routing changeover for the 3D sound mode under the DirectSound settings is completely neglected.

Speakers
Checking this box forces the 3D sound mode to change over to optimal one for the stereo speakers. Output routing changeover for the 3D sound mode under the DirectSound settings is completely neglected.

Application Settings
Checking this box follows the output routing changeover under the DirectSound settings.

Audio Testing Program

You can confirm the soundcard properly sounding by using Audio Testing Program. To start this program, double-click startup.exe icon located in the root directory of the WF192XG Installation Wizard CD-ROM and follow the Installation Wizard's instruction.

Uninstalling the Driver Software

You can uninstall the DS-XG driver by using the Installation Wizard. Double-click the startup.exe icon located in the root directory of the CD-ROM to start the Installation Wizard, and follow the instruction in the display.

Installation of the Bundled Applications

Application software that came with the card can also be installed using the Installation Wizard in the supplied CD-ROM (To start the Installation Wizard, double-click startup.exe icon located in the root directory of the CD-ROM). On installation, follow the message shown in the display. Note that some software is only usable with Windows 95. Following is a brief description for each application:

NOTE Please refer to the “readme” file, help file or online manual attachached to each application to see its system requirements, how to use it, and so on.

✶ YSTATION 32 (for Windows 95/NT)

Similar to the multimedia applications that comes with Windows 95/NT, this provides an integrated operability like a sophisticated audio system. Thus, not only you can play an audio CD or MIDI file or WAV sound files, but also mix different kinds of audio sources to play together. You can even record such a mix into a WAV file.

• Directory: App\Yst\Setup.exe

✶ Classic 100 (for Windows 95)

With this software, you can play famous classical compositions using an XG sound module on the soundcard. Since this software gives a description of the composition during playing, you can gain some knowledge about the music.

• Directory: App\Cla\Classic100-E\Setup.exe

✶ XGworks lite (for Windows 95)

Use this MIDI sequence software to make your own music using an XG sound module on the soundcard or external sound module.

• Directory: App\Xgwrksl\XGworks lite International\Setup.exe

✶ S-YXG50 (for Windows 95/NT)

Besides 64 polyphonic sounds from the XG sound module on the soundcard, this XG Soft Synthesizer offers 128 additional polyphonic sounds, with a total of 192 polyphony—origination of the name, Wave Force 192XG. The Soft Synthesizer offers 676 timbres plus 21 different drum kits along with 3 kinds of effects, reverb, chorus and variation.

• Directory: App\Syxg50\Win95\sxg50us_\disk1\Setup.exe
App\Syxg50\Winnt\2_00-1\Syxg50e_\disk1\Setup.exe

✶ Yamaha Wave Editor TWE (for Windows 95/NT)

Unlike its original name, TWE (Tiny Wave Editor) is a powerful audio wave form editor. It can edit various formats of AIFF or WAV files for pre- and post-editing audio. As it can record an external audio into a WAV file, you can fully capture the high-quality sounds from the WAVEFORCE soundcard.

• Directory: App\Twe\Twe-e\Setup.exe

✶ MIDPLUG (for Windows 95)

This Netscape plug-in software adds MIDI playback functionality to the browser. If you like to visit a MIDI-oriented Internet site, it will be quite useful.

• Directory: App\Midplg\Mp95Ev3\Setup.exe

✶ SoundVQ (for Windows 95/NT)

Based on “TwinVQ” audio compression technology developed by Nippon Telegram and Telephone Corporation (http://www.ntt.co.jp/), this audio codec (encoder/decoder) applications are developed to transfer high-quality audio via Internet in a possibly less traffic. SoundVQ consists of its encoding software, SoundVQ Encoder, and decoding software, SoundVQ Player. If you are interested in delivery of hi-quality audio at your site, these applications may be useful and convenient.

• Directory: App\Svq\Eng\vqe250b1e.exe(vqp250b1e.exe)

✶ DemonStar (for Windows 95)

Experience a great 3D shooting game from Mountain King Studios, with sound enhancement by an XG sound module on the soundcard! Realistic sound effects plus hi-quality back ground music is always necessary for serious gamers!

• Directory: App\Dstar\Demods.exe

About “Setupds”

If you install YSTATION 32, an application called “Setupds.exe” is also installed.

1. What is Setupds

Setupds.exe is an application which makes settings so that the WF192XG can be used in a Real DOS mode. If you install YSTATION 32, the Setupds.exe will be copied into C:\Program Files\YAMAHA\DS-XG.
This application operates on Real DOS mode.
The setting data will be saved in DS.INI

2. Start-up

Click [Shut Down] on the Windows’ [Start] menu and select “Restart the computer in MS-DOS mode?”. Move the directory as follows in the Command Prompt:

C:>CD \PROGRA~1\YAMAHA\DS-XG

Start the application.
At the command line, input the following.

Setupds [/s] (/s is optional)
Setupds [/d] (/d is optional)
Setupds [/?] (/? is optional)

If Setupds is started up without an option, a setting dialog box will appear in the screen.

/s option:
Setupds will make the settings for soundcard I/O port, IRQ, DMA, and volume settings that were written into the DS.INI file, will display these settings on the screen, and will exit. (In this case it will not be possible to change the settings.)

/d option:
Setupds will display the Legacy and Extended Legacy Audio Control Volume.

/? option:
Setupds will display the options.

3. Operation

When Setupds is started up without an option, a setting dialog box will appear on the screen. This will display the following.

<When using a keyboard>

[↑],[↓] keys	Select the item.
[←],[→] keys	Select the setting.
[Enter] key	Enter to the Sub-menu in Main-menu window.
	Decide the setting in Select-menu window.
[ESC] key	Return to upper menu in Sub-menu window.
	Enter to Exit-menu in Main-menu window.

4. About the default settings

The factory default settings are as follows.

Legacy Audio:	Enable
Sound Blaster:	I/O=220, IRQ=5, DMA=1
FM:	I/O=388
MPU:	I/O=330, IRQ=5
Joystick:	I/O=201
IRQ Mode:	IRQ[5,7,9,10,11]
DMA Mode:	PC/PCI
SB Volume:	Master= (Lch=0dB, Rch=0dB)
	Voice = (Lch=0dB, Rch=0dB)
	FM = (Lch=0dB, Rch=0dB)
AC97 Volume:	Master= (Lch=0dB, Rch=0dB)
	PCM = (Lch=0dB, Rch=0dB)
	The others are muted.

At the IRQ and DMA Mode, if Setupds judges that the default can not be used, the other mode is selected or the function is not used.

5. Testing sound

By using SOUND TEST menu, the following sound’s playback can be tested.

16 bit sound
8 bit sound(SOUND BLASTER)
FM

Specifications

WF192XG PCI SoundCard

External connectors

◆ **Mic input** (for condenser microphone of approx. 2.5 Volt biased voltage)
Input impedance: 8 Kohms (approx.)
Maximum input: 1 Vrms/100mVrms

◆ **Line input**
Input impedance: 20 Kohms (approx.)
Maximum input: 2 Vrms

◆ **Line output**
Maximum output: 0.9 Vrms (10 Kohms)

◆ **Speaker output**
Maximum output: 3 Watts (4 ohms)

Internal connectors

◆ **CD input**
Input impedance: 20 Kohms (approx.)
Maximum input: 1 Vrms

◆ **VIDEO input**
Input impedance: 40 Kohms (approx.)
Maximum input: 1 Vrms

◆ **AUX input**
Input impedance: 40 Kohms (approx.)
Maximum input: 1 Vrms

◆ **PHONE input**
Input impedance: 25 Kohms (approx.)
Maximum input: 1 Vrms

Tone generation

◆ **AWM2 (Advanced Wave Memory 2) tone generator**
Number of voices: 676 normal voices, 21 drum voices
Maximum polyphony: 64
Multi-timbral capability: 32 parts

Sound module mode compatibility

XG/GM mode . . . . Usual mode for the WAVEFORCE soundcard based on Yamaha's XG format, which expands GM (General MIDI) specifications. S-VA physical modeling voices of the WAVEFORCE soundcard can be played together in this mode.

TG300B mode . . . The mode with voice arrangement adopted in the tone generators of the other manufacturer. Depending on the data format of the MIDI files played, the sound module mode of the WAVEFORCE soundcard may change to this mode automatically.

◆ **S-VA physical modeling tone generator**
Number of voices: 256
Maximum polyphony: 1

Effects

◆ **Reverb:** 8 types

◆ **Chorus:** 8 types

◆ **Variation effects:** 36 types

System requirements

◆ **OS** Windows95 / WindowsNT 4.0 or later

◆ **CPU** Pentium / 120 MHz or greater (Pentium II / 233 MHz or greater needed for sounding S-VA voices.)

◆ **Memory** 32 MB or more

◆ **Hardware** PCI bus slot, CD-ROM drive for software installation

◆ **Software** Direct X5 or later

Specifications and descriptions in this manual are for information purposes only.Yamaha Corp. reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your Yamaha dealer.

FAQ

1: INSTALLATION

Q **What if the WF192XG is not making any sound?**

A Make sure that:

1) You have properly installed the WAVEFORCE soundcard into your PC.
2) The soundcard's audio output is plugged into an amplifier or pair of powered speakers.
3) Cables are correctly plugged in.
4) You are running Windows95 or Windows NT4.0.
5) You have correctly followed the instructions for installing the soundcard driver (Yamaha DS-XG driver).
6) The soundcard is recognized by your windows device manager.
7) The device manager is not reporting any conflicts with any other devices. (For more information, see the resources tab of the device's properties.)
8) The default device for both audio playback and MIDI output in your multimedia properties box is set to YAMAHA DS-XG.
9) You are playing either a wave audio or standard MIDI file type 0 or type1 through the soundcard. (Use Media Player to test that the soundcard is working.)
10) If all else fails, remove the soundcard and place it in another available PCI slot, then try again. If this also fails, take the card to an authorized service center and have them test it. If they find the card to be working properly, then the problem lies within your system.

Q **How do I install the soundcard in my machine?**

A Installation of any new device into a PC is easy if you apply three simple rules, as follows:

1) Before attempting to install the card, turn off the power of your PC and ground yourself by touching the outside of the computer case.
2) Do not force the soundcard into a slot, and make sure that the slot you are trying to fit the card into is the correct type of slot for the card.
3) Make sure the card is secure and screwed in tightly, so that it cannot come loose. This also helps reduce the amount of background noise due to improper earthing.

Q **What version of Direct X should be installed?**

A For most applications and particularly for games, it is recommended that you run DirectX5.0 or higher.

Q **How do I instruct my PC not to use the S-VA voices?**

A Go to your control panel for the WF192XG (YAMAHA DS-XG Audio Config), and deselect SONDIUS-XG as the default device in the synthesizer section.

Q **What if I need the latest version of the driver for my WF192XG?**

A Go to the drivers download page on the WAVEFORCE web site, at www.waveforce.com.

Q **Will the WF192XG work on all motherboards?**

A The WF192XG will work with all motherboards with at least 1 available PCI bus, although some people have experienced difficulties with the TX & high speed bus range of boards due to voltage level incompatibilities and the bus speed itself. Contact your board supplier to check.

Q **How do I find out what the latest version of the driver is for the WF192XG and compare this to my own version?**

A Go to your device manager, select 'Sound Video and Game controllers', and the YAMAHA DS-XG Device Manager will appear. To see which version you are using, double-click on the YAMAHA DS-XG Device Manager icon and select 'Driver'.

Q **Does the WF192XG work as an ISA soundcard?**

A In the Windows DOS Box, the WF192XG runs as an ISA soundcard. However, since many new games support Direct X technology in Windows95, this should not be a problem. Note that the PCI nature of the WF192XG means that it will not run in true DOS.

Q **What if the memory map location for the WF192XG is already in use by another card, such as a legacy device like the Adaptec 1542CF SCSI card?**

A Go to your system properties and click on resources (Control Panel/System/Device Manager/Properties/Resource Tab), select Manual configuration, and change the setting until you see 'No conflict'.

2: PLAYING GAMES

Q **Can I install the WF192XG with an ISA soundcard, since I would like to keep running DOS games as well as Win95 games with XG?**

A Yes, so long as these is no IRQ conflict you can still run your old ISA bus SoundBlaster card at the same time.

Q **Can WF192XG be used with DOS game?**

A The WF192XG is compatible with an ISA soundcard via the following methods.

PC/PCI

When your motherboard has a PC/PCI connector, connect the cable between the WF192XG and the motherboard to run DOS game in DOS real-mode.

Note that some games don't work properly with the above methods, when beyond the limit of software emulation in DOS programming. Check the DOS game compatibility list on the WAVEFORCE web site.

Q What if I am experiencing problems with the audio playback in some of my games?

A First check for information on the game developer's web site to see if there are any known problems within the game. Next, post a message in the relevant newsgroups to see if anyone else has encountered this problem with any other soundcard. Then, post a message to the Yamaha forum to see if anyone else has had this problem. If none of this helps, then E-mail us.

Q Which games have Yamaha tested with the WF192XG?

A Check the WAVEFORCE web site for information.

Q What speakers are recommended for use with the WF192XG?

A Any good hi-fi speakers will be OK. However, we recommend that you use one of our YST Multimedia Speakers. Also, try the Yamaha YST sub woofers (available from most Yamaha sales outlets worldwide.)

Q What games currently support XG?

A Basically any game that supports GM will perform without a problem, and will even sound much better by XG. Some games (such as Final Fantasy VII from SquareSoft, for example) specifically support the XG system extension. After you hear some of the demo MIDI files that are available for XG and realize what a massive difference it can make, you may wish to request that your games company seriously consider supporting XG!

Q What is DirectSound3D?

A Microsoft's 3D-positional audio API, first introduced with DirectX5.0, makes it possible to position and move audio events (e.g., gunshots, door slams, engine noises, etc.) in a three-dimensional space. Basically, it depends on the game. The WAVEFORCE web site can inform you of the latest news.

Q What is DLS?

A DLS is an acronym which stands for downloadable sounds. A soundcard that supports DLS has a functionally infinite library of waveforms at its disposal because new sounds can be loaded into memory, i.e., either system memory or local memory on the card itself. WF192XG has DLS function included.The DLS driver will be available from the WAVEFORCE web site.

3: SPECIFICATIONS

Q **What is full duplex, and is the WF192XG full duplex capable?**

A Full duplex is the ability for a soundcard to record and playback audio at the same time. The WF192XG is able to do this while maintaining full 16-bit 44.1kHz quality.

Q **What wave file types is the WF192XG compatible with (i.e., what types can it play back)?**

A Pretty much anything. Most of the supported sample rates of audio applications such as Soundforge or Wavelab are supported, although one or two of the more non-standard ones may not work.

Q **Is the WF192XG a 32-bit device?**

A Yes, the PCI architecture is 32-bit, but as with almost every soundcard in the world, playback of 32-bit audio files is not possible. The card has 16-bit audio inputs and outputs.

Q **What is the difference between normal XG and SONDIUS-XG**

A SONDIUS-XG is a joint license with Stanford University. The SONDIUS-XG system uses Yamaha's S-VA physical modeling synthesis system (S-VA voices) alongside the wavetable (AWM2) XG engine, whereas standard XG just uses the wavetable (AWM2) XG aspect. At present SONDIUS-XG is very CPU intensive.

Q **How do I test for full duplex in Windows 95?**

A Using Sound Recorder, open up a file at 44.1k/16-bit. Whilst playing this file, open up another sound recorder and record another at the same freq. and bit rate. This should work fine, as all Yamaha DS-XG based systems such as the WF192XG are full duplex compatible.

Q **How can I check the Audio wave playback function in Windows?**

A Start the media player and select 'Sound' from the Device menu. Then load up any good 16-bit stereo sound (44.1kHz). Make sure the audio out is connected to your speakers or amplifier, and press play. Check the cables to your amplifier, and check in the device manager that Windows is not reporting any conflicts with your soundcard.

4: GENERAL PC TOPICS

Q **What are samples, waveforms, and wavetables?**

A Simply put, a sample is basically a digital representation of an analog sound, whether it be a piano, an animal sound, or the sound of breaking glass. Analog sound waves must be converted into binary form (ones and zeros) before they can be stored and processed by a computer. This conversion is accomplished by taking pictures (samples) of an analogue waveform (picture of a sound wave) at regular intervals thousands of times each second. The end of the sample is then linked to the beginning, forming a continuous loop. A wavetable is a collection, i.e., a library, if you will, of these waveform samples.

Q **What does the term 'sampling rate' mean?**

A The sampling rate indicates the speed, measured in thousands of cycles per second, at which analog audio is converted to digital, or digital audio is converted back to analog. The measurement is expressed in kilohertz (kHz), so a sampling rate of 44.1kHz would equal 44,100 samples per second. High sampling rates obviously deliver more accurate representations than low sampling rates because they capture more information about the sound.

Q **What are DACs and ADCs?**

A A DAC is a digital-to-analog converter. An ADC is an analog-to-digital converter. A DAC is used to play back digital audio and an ADC is used to digitally record analog audio. Most soundcards have DACs that play back audio with 16-bit.

Q **What other Yamaha web sites provide information?**

A Try the following:
www.yamaha.co.jp/english/xg
www.yamaha-xg.com

Q **What is Acrobat Reader?**

A Acrobat Reader is a utility that gives users on both Macintosh & PC platforms the ability to read documents stored in the PDF (Portable Document) Format.

5: MUSIC AND OTHER APPLICATIONS

Q What is MIDI?

A MIDI is an acronym which stands for Musical Instrument Digital Interface. A 5-pin socket running at 31.25kBaud allows communication between compatible devices which adhere to the original MIDI specification.

Q Where can I get XG MIDI files from?

A The Yamaha online shop at www.yamaha.co.uk/shop is a good place to start, but any reputable XG file outlet can supply good quality MIDI files.

Q How do I connect to external MIDI equipment?

A There are two ways:

1) Use the joystick terminal with the optional MDC-01 cable.

2) Use the serial port with a serial cable & serial driver.

Q What is the AWM2 that is used by the XG aspect of the WF192XG?

A AWM, or Advanced Wave Memory, is Yamaha's original system for effectively using sampled waveforms in synthesizers and tone generators. Although the basis for all AWM voices is a sampled waveform, e.g., a sample of a real existing instrument, a classic synthesizer sound, or other electronically created sounds, the AWM system provides an extensive range of envelope generator, filter, modulation, and other parameters which can be applied to the basic waveform. Furthermore, up to four 'elements', each with its own wave and a complete set of editable parameters, can be assigned to each voice. The strength of AWM synthesis lies not only in its outstanding sound quality (it uses 16-bit, 44.1kHz samples), but also in its extraordinary ability to shape and control the sound of the samples. AWM synthesis also allows the creation of drum voices in which different drum and percussion instruments with individual volume, pitch, and timbre parameters can be assigned to individual notes of a keyboard (from C-2 to G8). The WF192XG feature a built-in sampling system (utilizing DLS technology) which is capable of sampling sounds from external sources (via line or microphone). Waveforms sampled using this feature can be used in AWM voices, so your capacity to create totally new AWM voices is truly unlimited.
DLS driver will be available from the WAVEFORCE web site.

Q Why don't the effects work when I play an XG file?

A Check that the XG file is properly programmed. All files supplied by Yamaha are properly programmed. Second, check that the Reverb, Chorus and Variation effects are enabled in the Control Panel's DS-XG configuration.

Q Where can I get an information pack on how to make my own XG files?

A The XG-compatible MIDI data production document is available online at www.yamaha.co.uk/xg. This is an Adobe Acrobat Document, which covers everything you need to know about how XG works in full. Also available are several issue of the acclaimed XGXTRA magazine, again as PDF files. These give a more informal insight into XG.

Q **If I make a file on the WF192XG will it playback on my friend's GM synth or soundcard?**

A Yes, but it won't sound as good as if you have used XG properly. The fact is that XG has many more effects and controllable parameters than any other GM synths on the market.

Q **How do I edit and save an XG voice?**

A There are two easy ways. One is to buy a full copy of Xgedit or XGworks from the Yamaha online shop. The other is to learn as much as possible about sysex using some of our guidebooks which you can download from the software pages. Simply save the edited voice in the event list of your sequencer application.

Q **How can I test my XG files in Windows ?**

A Media Payer is one solution although its MIDI playback spec is not exactly the best. Yamaha recommends an application such as XGworks demo or Xgedit demo which both handle XG very well and should give an indication of how a correct XG file should sound. Remember that well programmed XG files will adhere fully to the specifications set down by Yamaha, and that Yamaha cannot recommend files not supplied directly by this site or by an authorized Yamaha outlet, although there are many good third party programmers on the net.

Q **Is there an overview of XG?**

A There are several. You may wish to download the XG Specs from our XG home page, or try the online tutorial quiz , also in the XG home page.

XG Normal Voice List

Bank Select MSB=000, LSB=Bank#

Instrument Group	Program #	Bank #	Voice Name	Element
Piano	1	0	GrandPno	1
		1	GrndPnoK	1
		18	MelloGrP	1
		40	PianoStr	2
		41	Dream	2
	2	0	BritePno	1
		1	BritPnoK	1
	3	0	E.Grand	2
		1	ElGrPnoK	2
		32	Det.CP80	2
		40	ElGrPno1	2
		41	ElGrPno2	2
	4	0	HnkyTonk	2
		1	HnkyTnkK	2
	5	0	E.Piano1	2
		1	El.Pno1K	1
		18	MelloEP1	2
		32	Chor.EP1	2
		40	HardEl.P	2
		45	VX El.P1	2
		64	60sEl.P	1
	6	0	E.Piano2	2
		1	El.Pno2K	1
		32	Chor.EP2	2
		33	DX Hard	2
		34	DXLegend	2
		40	DX Phase	2
		41	DX+Analg	2
		42	DXKotoEP	2
		45	VX El.P2	2
	7	0	Harpsi.	1
		1	Harpsi.K	1
		25	Harpsi.2	2
		35	Harpsi.3	2
	8	0	Clavi.	2
		1	Clavi. K	1
		27	ClaviWah	2
		64	PulseClv	1
		65	PierceCl	2
Chromatic	9	0	Celesta	1
Percussion	10	0	Glocken	1
	11	0	MusicBox	2
		64	Orgel	2
	12	0	Vibes	1
		1	VibesK	1
		45	HardVibe	2
	13	0	Marimba	1
		1	MarimbaK	1
		64	SineMrmb	2
		97	Balafon2	2
		98	Log Drum	2
	14	0	Xylophon	1
	15	0	TubulBel	1
		96	ChrchBel	2
		97	Carillon	2
	16	0	Dulcimer	1
		35	Dulcimr2	2
		96	Cimbalom	2
		97	Santur	2

Instrument Group	Program #	Bank #	Voice Name	Element
Organ	17	0	DrawOrgn	1
		32	DetDrwOr	2
		33	60sDrOr1	2
		34	60sDrOr2	2
		35	70sDrOr1	2
		36	DrawOrg2	2
		37	60sDrOr3	2
		38	EvenBar	2
		40	16+2"2/3	2
		64	Organ Ba	1
		65	70sDrOr2	2
		66	CheezOrg	2
		67	DrawOrg3	2
	18	0	PercOrgn	1
		24	70sPcOr1	2
		32	DetPrcOr	2
		33	LiteOrg	2
		37	PercOrg2	2
	19	0	RockOrgn	2
		64	RotaryOr	2
		65	SloRotar	2
		66	FstRotar	2
	20	0	ChrchOrg	2
		32	ChurOrg3	2
		35	ChurOrg2	2
		40	NotreDam	2
		64	OrgFlute	2
		65	TrmOrgFl	2
	21	0	ReedOrgn	1
		40	Puff Org	2
	22	0	Acordion	2
		32	AccordIt	2
	23	0	Harmnica	1
		32	Harmo 2	2
	24	0	TangoAcd	2
		64	TngoAcd2	2
Guitar	25	0	NylonGtr	1
		16	NylonGt2	1
		25	NylonGt3	2
		43	VelGtHrm	2
		96	Ukulele	1
	26	0	SteelGtr	1
		16	SteelGt2	1
		35	12StrGtr	2
		40	Nyln&Stl	2
		41	Stl&Body	2
		96	Mandolin	2
	27	0	Jazz Gtr	1
		18	MelloGtr	1
		32	JazzAmp	2
	28	0	CleanGtr	1
		32	ChorusGt	2
	29	0	Mute.Gtr	1
		40	FunkGtr1	2
		41	MuteStlG	2
		43	FunkGtr2	2
		45	Jazz Man	1
	30	0	Ovrdrive	1
		43	Gt.Pinch	2
	31	0	Dist.Gtr	1
		40	FeedbkGt	2
		41	FeedbGt2	2
	32	0	GtrHarmo	1
		65	GtFeedbk	1
		66	GtrHrmo2	1

Instrument Group	Program #	Bank #	Voice Name	Element
Bass	33	0	Aco.Bass	1
		40	JazzRthm	2
		45	VXUprght	2
	34	0	FngrBass	1
		18	FingrDrk	2
		27	FlangeBa	2
		40	Ba&DstEG	2
		43	FngrSlap	2
		45	FngBass2	2
		65	ModAlem	2
	35	0	PickBass	1
		28	MutePkBa	1
	36	0	Fretless	1
		32	Fretles2	2
		33	Fretles3	2
		34	Fretles4	2
		96	SynFretl	2
		97	Smooth	2
	37	0	SlapBas1	1
		27	ResoSlap	1
		32	PunchThm	2
	38	0	SlapBas2	1
		43	VeloSlap	2
	39	0	SynBass1	1
		18	SynBa1Dk	1
		20	FastResB	1
		24	AcidBass	1
		35	Clv Bass	2
		40	TeknoBa	2
		64	Oscar	2
		65	SqrBass	1
		66	RubberBa	2
		96	Hammer	2
	40	0	SynBass2	2
		6	MelloSB1	1
		12	Seq Bass	2
		18	ClkSynBa	2
		19	SynBa2Dk	1
		32	SmthBa 2	2
		40	ModulrBa	2
		41	DX Bass	2
		64	X WireBa	2
Strings	41	0	Violin	1
		8	SlowVln	1
	42	0	Viola	1
	43	0	Cello	1
	44	0	Contrabs	1
	45	0	Trem.Str	1
		8	SlowTrStr	1
		40	Susp Str	2
	46	0	Pizz.Str	1
	47	0	Harp	1
		40	YangChin	2
	48	0	Timpani	1

Instrument Group	Program #	Bank #	Voice Name	Element
Ensemble	49	0	Strings1	1
		3	S.Strngs	2
		8	SlowStr	1
		24	ArcoStr	2
		35	60sStrng	2
		40	Orchestr	2
		41	Orchstr2	2
		42	TremOrch	2
		45	VeloStr	2
	50	0	Strings2	1
		3	S.SlwStr	2
		8	LegatoSt	2
		40	Warm Str	2
		41	Kingdom	2
		64	70s Str	1
		65	Str Ens3	1
	51	0	Syn.Str1	2
		27	ResoStr	2
		64	Syn Str4	2
		65	SS Str	2
	52	0	Syn.Str2	2
	53	0	ChoirAah	1
		3	S.Choir	2
		16	Ch.Aahs2	2
		32	MelChoir	2
		40	ChoirStr	2
	54	0	VoiceOoh	1
	55	0	SynVoice	1
		40	SynVox2	2
		41	Choral	2
		64	AnaVoice	1
	56	0	Orch.Hit	2
		35	OrchHit2	2
		64	Impact	2
Brass	57	0	Trumpet	1
		16	Trumpet2	1
		17	BriteTrp	2
		32	WarmTrp	2
	58	0	Trombone	1
		18	Trmbone2	2
	59	0	Tuba	1
		16	Tuba 2	1
	60	0	Mute.Trp	1
	61	0	Fr.Horn	2
		6	FrHrSolo	1
		32	FrHorn2	1
		37	HornOrch	2
	62	0	BrasSect	1
		35	Tp&TbSec	2
		40	BrssSec2	2
		41	HiBrass	2
		42	MelloBrs	2
	63	0	SynBras1	2
		12	QuackBr	2
		20	RezSynBr	2
		24	PolyBrss	2
		27	SynBras3	2
		32	JumpBrss	2
		45	AnaVelBr	2
		64	AnaBrss1	2
	64	0	SynBras2	1
		18	Soft Brs	2
		40	SynBras4	2
		41	ChorBrss	2
		45	VelBras2	2
		64	AnaBras2	2

Bank 0:(GM)
Bank 1:Key Scale Panning
Bank 3:Stereo
Bank 6:Single
Bank 8:Slow
Bank 12:Fast Decay
Bank 14:Double Attack
Bank 16:Bright
Bank 17:Bright
Bank 18:Dark
Bank 19:Dark
Bank 20:Resonant
Bank 24:Attack
Bank 25:Release
Bank 27:Reso Sweep
Bank 28:Muted
Bank 32:Detune 1
Bank 33:Detune 2
Bank 34:Detune 3
Bank 35:Octave 1
Bank 36:Octave 2
Bank 37:5th 1
Bank 38:5th 2
Bank 39:Bend
Bank 40:Tutti
Bank 41:Tutti
Bank 42:Tutti
Bank 43:Velo-Switch
Bank 45:Velo-Xfade
Bank 64:Other wave
Bank 65:Other wave
Bank 66:Other wave
Bank 67:Other wave
Bank 68:Other wave
Bank 69:Other wave
Bank 70:Other wave
Bank 71:Other wave
Bank 72:Other wave
Bank 96:Other wave
Bank 97:Other wave
Bank 98:Other wave
Bank 99:Other wave
Bank 100:Other wave
Bank 101:Other wave

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

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

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

SFX Voice List

MSB=064, LSB=000

Program #	MSB=064 LSB=000	Element
1	CuttngNz	1
2	CttngNz2	2
3		
4	Str Slap	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	Fl.KClik	1
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33	Rain	1
34	Thunder	1
35	Wind	1
36	Stream	2
37	Bubble	2
38	Feed	2
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49	Dog	1
50	Horse	1
51	Bird 2	1
52		
53		
54		
55	Ghost	2
56	Maou	2
57		
58		
59		
60		
61		
62		
63		
64		

Program #	MSB=064 LSB=000	Element
65	Tel.Dial	1
66	DoorSqek	1
67	Door Slam	1
68	Scratch	1
69	Scratch 2	2
70	WindChm	1
71	Telphon2	1
72		
73		
74		
75		
76		
77		
78		
79		
80		
81	CarEngin	1
82	Car Stop	1
83	Car Pass	1
84	CarCrash	1
85	Siren	2
86	Train	1
87	Jetplane	2
88	Starship	2
89	Burst	2
90	Coaster	2
91	SbMarine	2
92		
93		
94		
95		
96		
97	Laughing	1
98	Scream	1
99	Punch	1
100	Heart	1
101	FootStep	1
102		
103		
104		
105		
106		
107		
108		
109		
110		
111		
112		
113	MchinGun	1
114	LaserGun	2
115	Xplosion	2
116	FireWork	2
117		
118		
119		
120		
121		
122		
123		
124		
125		
126		
127		
128		

: No Sound

S-VA Voice List

Bank Select MSB=33, LSB=0

Program #	Voice Name	Range
1	Mad Tube	C1 ~ B4
2	VintgLd	B-1 ~ C6
3	SpaceZoo	***
4	GuitHero	G0 ~ C5
5	StoneHng	F0 ~ G6
6	Whizzer	G♯0 ~ F♯5
7	SimpleBa	C0 ~ C6
8	ClavBass	C0 ~ E3
9	SuperBas	C0 ~ F♯3
10	New Slap	C0 ~ D5
11	RockPigs	C0 ~ E4
12	Igneous	C0 ~ C5
13	50 / 50	C0 ~ F5
14	Cybastrg	C-1 ~ C6
15	Wynth	A-1 ~ G5
16	BuzzSaw	E-1 ~ C6
17	ZubZub	B-1 ~ C6
18	Blue	G0 ~ D3
19	OsciLead	C0 ~ G5
20	SqrLead	D♯0 ~ C6
21	Bigger	C-1 ~ C6
22	AnaSquid	G-1 ~ C6
23	SharpSyn	G0 ~ C6
24	AnaWave	C0 ~ E4
25	AnaWurl	C0 ~ C6
26	Babalog	C0 ~ C6
27	FngerBass	B-1 ~ C4
28	Upright	B-1 ~ C4
29	Fnground	A-1 ~ C4
30	Birdland	A-1 ~ C4
31	FlageoBs	G0 ~ C4
32	DampBass	G-1 ~ C3
33	Fretles!	E-1 ~ C4
34	Frtles!2	B-1 ~ C♯4
35	ThumBass	C0 ~ C3
36	RockBass	G-1 ~ C4
37	SmooBass	B-1 ~ A♯3
38	WarmBass	B-1 ~ C4
39	YamaBass	A-1 ~ C4
40	Box Bass	C0 ~ C4
41	BassCab	B-1 ~ G♯4
42	FruitBas	C0 ~ C4
43	AcidBas!	B-1 ~ C5
44	SqrBass!	B-1 ~ G4
45	PulsClav	A-1 ~ G5
46	MogueBas	B-1 ~ C♯7
47	BoppaBas	B-1 ~ C4
48	BuzzrBas	D0 ~ E4
49	MuteHrBs	C0 ~ C5
50	TekBass	B-1~ C4
51	TranzBas	C0 ~ F♯4
52	Chamlion	C0 ~ B4
53	ParaSyn	A-1 ~ C4
54	SteamBas	C0 ~ C♯7
55	BooBass	B-1 ~ C5
56	WhelkBas	E-1 ~ C♯5
57	AtackSyn	G0 ~ B4
58	Q.Klav	A-1 ~ C♯4
59	Sitar!	G0 ~ E4
60	India	F♯0 ~ C6
61	YamSteel	A2 ~ C6
62	StungSt	F♯0 ~ B5
63	Mu	***
64	Waterphn	***
65	DinoPerc	***
66	Formula	***
67	Jurassic	***
68	Devil	***
69	SpcHorse	***
70	Jason	***
71	Suedhead	F-1 ~ C6
72	Spanish	F-1 ~ E4
73	JazzGtr!	B-1 ~ A4
74	JazzyGtr	A-1 ~ C6
75	L7 Pluck	B-1 ~ E4
76	WetPluck	B-1 ~ E4
77	Comp Gtr	B-1 ~ A4
78	FunkyGtr	B-1 ~ D5
79	Thin Gtr	B-1 ~ G5
80	Carlos	B-1 ~ G4
81	Destiny	C0 ~ C5
82	Gonzo	B-1 ~ G5
83	Grunge	C0 ~ B6
84	Ossyncro	B-1 ~ G5
85	Talk Box	F♯0 ~ E7
86	SyncLed	B-1 ~ E6
87	Old Mini	A-1 ~ A5
88	Fat Mini	G-1 ~ A5
89	Parlopho	B-1 ~ C5
90	SimpleSy	B-1 ~ E5
91	Choronic	C0 ~ G5
92	SlitMinu	F0 ~ C6
93	SynHarmo	B-1 ~ G6
94	Flaggoot	C0 ~ D4
95	SynSkex	C0 ~ A♯5
96	ResoSqr	A-1 ~ D5
97	WurliLd	B-1 ~ C6
98	FlatLead	G♯1 ~ G5
99	PhilTur	B-1 ~ C6
100	ChalPuls	B-1 ~ C6
101	Pluck Ld	B-1 ~ C6
102	Brassyn	B-1 ~ C6
103	AcoSynLd	A-1 ~ C6
104	Moby	G-1 ~ F5
105	Digitrn	C0 ~ C6
106	LyricOff	B-1 ~ C6
107	Rezzawi	B-1 ~ G5
108	Macro	B-1 ~ C6
109	Claribo	G♯-1 ~ G5
110	Binaphon	C0 ~ C6
111	MokoPipe	C0 ~ C6
112	AliBaba	B-1 ~ C6
113	Persinet	B-1 ~ G5
114	PicoPipe	Ab0 ~ C6
115	Gertrude	C0 ~ C6
116	Xynth	G-1 ~ C6
117	Duality	G-1 ~ C6
118	AltKwek	G♯1 ~ C7
119	Softblow	C0 ~ C6
120	AlbaPipe	C0 ~ C6
121	Electrum	C0 ~ C6
122	Edgeopho	B-1 ~ F5
123	BassCla!	C0 ~ C6
124	WX Clari	C1 ~ C6
125	WX Oboe	C0 ~ B5
126	WX J Gtr	C0 ~ A4
127	Shakuha!	C1 ~ C6
128	LipClari	F-1 ~ C6

Bank Select MSB=33, LSB=1

Program #	Voice Name	Range
1	Vento	C0 ~ C6
2	Floboe	C0 ~ C6
3	Sintax	F0 ~ G5
4	Eastern	E0 ~ C6
5	Trumpet!	C0 ~ C6
6	SoprSax!	C0 ~ C6
7	LiteAlto	E0 ~ C6
8	Trmbone!	C0 ~ C6
9	BtlFlute	C0 ~ C6
10	Air Sax	G0 ~ C6
11	TenrSax!	C0 ~ C6
12	Coca	C1 ~ C6
13	JetLpBow	A-1 ~ C6
14	Viol Inn	C0 ~ C6
15	MuteCone	G0 ~ C6
16	BrethBow	B-1 ~ C6
17	Trumpt!2	C0 ~ C6
18	FlugIHr!	C0 ~ C6
19	Cornet	C0 ~ C6
20	JzTrump	F♯2 ~ C6
21	JzTrump2	G♯1 ~ C6
22	Flumpet	D0 ~ C6
23	WXTrumpt	C0 ~ C6
24	MuteTp!	E0 ~ C6
25	MuteTp!2	C0 ~ C6
26	Melwbone	C0 ~ C6
27	NerzoBr	E0 ~ C6
28	Horn!	B-1 ~ C6
29	Horn!2	C0 ~ C6
30	NuHorne	B-1 ~ C6
31	WX Horn	B-1 ~ C6
32	Tuba!	C0 ~ C6
33	NuViolin	C0 ~ C6
34	C Violin	C0 ~ C6
35	BrtVioln	C0 ~ C6
36	MuteViol	C0 ~ C6
37	BrtViola	C0 ~ C6
38	ViolOutt	C0 ~ C6
39	Cello!	C0 ~ C5
40	Eleanor	C0 ~ C5
41	Nu Cello	B-1 ~ C6
42	Contrair	A-1 ~ C5
43	DoublBow	A-1 ~ C5
44	Piccolo!	C0 ~ C7
45	Piccol!2	C0 ~ C7
46	BowPicol	C0 ~ G6
47	C Flute	C0 ~ C6
48	C Flute2	C0 ~ C6
49	JazFlute	B-1 ~ C6
50	OakFlute	E0 ~ C6
51	BtlFlut2	C0 ~ C6
52	RzdeFlt	E0 ~ C6
53	Flutuen	G1 ~ C6
54	Nz Flute	C0 ~ C6
55	WX Shaku	C1 ~ C6
56	Pan Pipe	E0 ~ G5
57	PanPicol	C0 ~ G6
58	Bamboo	C0 ~ C6
59	Andean	C0 ~ C6
60	Flurinet	F0 ~ C6
61	SoftReed	C0 ~ C6
62	Flurmod	F0 ~ B5
63	Jhopali	G0 ~ C5
64	Baroquen	C0 ~ C6
65	SqualAT	C0 ~ C6
66	NuSopSax	C0 ~ G5
67	CvSopSax	A-1 ~ C6
68	SoprPipe	F0 ~ C6
69	LiteSopr	E0 ~ C6
70	AnaSoprn	F0 ~ C6
71	NuAltSax	C0 ~ C5
72	SweetAlt	F♯0 ~ E5
73	AltoSax!	E0 ~ C6
74	HarpAlto	G0 ~ C6
75	HarpAlt2	G0 ~ C6
76	GlassAlt	C0 ~ C6
77	AcidSax	C0 ~ C6
78	WackSax	G♯0 ~ E5
79	NuTenrSx	D0 ~ E5
80	MildTenr	C0 ~ C6
81	Jazz Sax	A♯0 ~ E5
82	TenorSub	A♯0 ~ A5
83	BellMike	C0 ~ C5
84	GlasTenr	G0 ~ E5
85	FnkyTenr	C0 ~ G5
86	OldTenor	C0 ~ A5
87	BrtTenor	C0 ~ C6
88	BariSax!	C0 ~ C5
89	VoxoSaxo	C0 ~ C5
90	Oboe!	F0 ~ C6
91	Oboe!2	C0 ~ C6
92	Noboe	C0 ~ G5
93	OboeWhi	G1 ~ G6
94	DblReedy	C0 ~ A5
95	TripleRd	C0 ~ C6
96	EngHorn!	C0 ~ C6
97	Loboe	C0 ~ C6
98	Bassoon!	C0 ~ C5
99	Clarint!	A0 ~ C6
100	LitePipe	C0 ~ C6
101	HyperCla	C0 ~ C6
102	Clarint2	F0 ~ C6
103	IslePipe	C1 ~ C5
104	Chanter	D1 ~ C6
105	ThaiReed	C0 ~ C5
106	Recordr!	C0 ~ A5
107	Claricrd	C0 ~ C5
108	SoftPipe	G0 ~ C5
109	BowdSaw	C0 ~ C5
110	Ocarina!	F0 ~ C7
111	Lonely	C♯2 ~ E6
112	Ophelia	C0 ~ C6
113	Maysbe?	D♯0 ~ A5
114	MizuHorn	C0 ~ C6
115	PicoStrg	G♯0 ~ C5
116	Sylophon	C0 ~ C5
117	BowLead	C0 ~ C6
118	Squeeze	C0 ~ C6
119	MouthKey	C0 ~ C6
120	AmpdHarp	C0 ~ C6
121	CromHarp	A-1 ~ C6
122	WahUpHp	B-1 ~ C6
123	YamaBotl	A♯-1 ~ C6
124	Blowsoo	G-1 ~ C5
125	Brappo	C0 ~ C5
126	Crumbon	E0 ~ G5
127	Klarina	E0 ~ B5
128	ReedWin	E0 ~ C6

S-VA Voice List (SOUNDIUS-XG Voice List)

Bank Select MSB=81, 97 LSB=Bank#

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

* When Bank Select MSB is 81, the blank boxes indicate the same voice as the ones for Bank 112.
* When Bank Select MSB is 97, the blank boxes indicate the same voice as the ones for XG Normal Voice Bank 1.

Bank Select MSB=81 LSB=Bank#

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

* The blank boxes indicate the same voice as the ones for Bank 112.
* When Bank Select MSB is 97, the voices above are not included.

XG Drum Voice List

Bank Select MSB=Bank#, LSB=000

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

: Same as Standard Kit

: No Sound

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

TG300B Normal Voice List

Bank Select MSB=Bank#, LSB=000

Instrument Group	Program #	Bank #	Voice Name	Element
Piano	1	0	GrandPno	1
		8	GrndPnoK	1
		16	MelloGrP	1
		126	A-Piano1	2
		127	a.piano1	1
	2	0	BritePno	1
		8	BritPnoK	1
		126	A-Piano2	2
		127	a.piano2	1
	3	0	E.Grand	2
		1	ElGrPno1	2
		2	ElGrPno2	2
		8	ElGrPnoK	2
		126	A-Piano3	2
		127	a.piano3	1
	4	0	HnkyTonk	2
		8	HnkyTnkK	2
		126	A-Piano4	2
		127	e.piano1	1
	5	0	E.Piano1	2
		8	Chor.EP1	2
		16	VX El.P1	2
		24	60sEl.P	1
		25	HardEl.P	2
		26	MelloEP1	2
		32	El.Pno1K	1
		126	A-Piano5	1
		127	e.piano2	1
	6	0	E.Piano2	2
		8	Chor.EP2	2
		16	VX El.P2	2
		24	DX Hard	2
		32	El.Pno2K	1
		126	A-Piano6	1
		127	e.piano3	1
	7	0	Harpsi.	1
		8	Harpsi.3	2
		16	Harpsi.K	1
		24	Harpsi.2	2
		126	A-Piano7	1
		127	e.piano4	1
	8	0	Clavi.	2
		8	Clavi. K	1
		126	E-Piano1	2
		127	hnkytnk	2
Chromatic Percussion	9	0	Celesta	1
		126	E-Piano2	2
		127	e.organ1	2
	10	0	Glocken	1
		126	E-Piano3	2
		127	e.organ2	2
	11	0	MusicBox	2
		126	A-Guitr1	1
		127	e.organ3	1
	12	0	Vibes	1
		1	HardVibe	2
		8	VibesK	1
		126	A-Guitr2	2
		127	e.organ4	1
	13	0	Marimba	1
		8	MarimbaK	1
		17	Balafon2	2
		24	Log Drum	2
		126	A-Guitr3	2
		127	pipeorg1	2
	14	0	Xylophon	1
		126	E-Guitr1	2
		127	pipeorg2	2
	15	0	TubulBel	1
		8	ChrchBel	2
		9	Carillon	2
		126	E-Guitr2	1
		127	pipeorg3	2
	16	0	Dulcimer	1
		1	Dulcimr2	2
		8	Cimbalom	2
		126	Slap-1	2
		127	acordion	2

Instrument Group	Program #	Bank #	Voice Name	Element
Organ	17	0	DrawOrgn	1
		1	70sDrOr1	2
		8	DetDrwOr	2
		9	70sDrOr2	2
		16	60sDrOr1	2
		17	60sDrOr2	2
		18	60sDrOr3	2
		24	CheezOrg	2
		32	DrawOrg2	2
		33	EvenBar	2
		40	Organ Ba	1
		126	Slap-2	2
		127	harpsi1	1
	18	0	PercOrgn	1
		1	70sPcOr1	2
		8	DetPrcOr	2
		32	PercOrg2	2
		126	Slap-3	2
		127	harpsi2	2
	19	0	RockOrgn	2
		8	RotaryOr	2
		16	SloRotar	2
		24	FstRotar	2
		126	Slap-4	2
		127	harpsi3	1
	20	0	ChrchOrg	2
		8	ChurOrg2	2
		16	ChurOrg3	2
		24	OrgFlute	2
		32	TrmOrgFl	2
		126	Slap-5	2
		127	clavi1	1
	21	0	ReedOrgn	1
		126	Slap-6	2
		127	clavi2	1
	22	0	Acordion	2
		8	AccordIt	2
		126	Slap-7	2
		127	clavi3	1
	23	0	Harmnica	1
		1	Harmo 2	2
		126	Slap-8	2
		127	celesta1	1
	24	0	TangoAcd	2
		126	Finger-1	1
		127	celesta2	1
Guitar	25	0	NylonGtr	1
		8	Ukulele	1
		16	NylonGt3	2
		24	VelGtHrm	2
		32	NylonGt2	1
		40	LequintG	1
		126	Finger-2	2
		127	synbras1	2
	26	0	SteelGtr	1
		8	12StrGtr	2
		9	Nyln&Stl	2
		16	Mandolin	2
		32	SteelGt2	1
		126	Picked-1	1
		127	synbras2	2
	27	0	Jazz Gtr	1
		1	MelloGtr	1
		8	PdlSteel	1
		126	Picked-2	2
		127	synbras3	2
	28	0	CleanGtr	1
		8	ChorusGt	2
		126	FretlsBs	1
		127	synbras4	2

Instrument Group	Program #	Bank #	Voice Name	Element
Guitar	29	0	Mute.Gtr	1
		8	FunkGtr1	2
		16	FunkGtr2	2
		126	A-Bass	2
		127	synbass1	1
	30	0	Ovrdrive	1
		126	Choir-1	1
		127	synbass2	1
	31	0	Dist.Gtr	1
		8	FeedbkGt	2
		9	FeedbGt2	2
		126	Choir-2	1
		127	synbass3	2
	32	0	GtrHarmo	1
		8	GtFeedbk	1
		126	Choir-3	2
		127	synbass4	1
Bass	33	0	Aco.Bass	1
		126	Choir-4	2
		127	newagepd	2
	34	0	FngrBass	1
		1	FngBass2	2
		126	Strngs-1	2
		127	synharmo	2
	35	0	PickBass	1
		8	MutePkBa	1
		126	Strngs-2	2
		127	choir pd	2
	36	0	Fretless	1
		1	Fretles2	2
		2	Fretles3	2
		3	Fretles4	2
		4	SynFretl	2
		5	Smooth	2
		126	Strngs-3	2
		127	bowed pd	2
	37	0	SlapBas1	1
		8	ResoSlap	1
		126	Strngs-4	2
		127	soundtrk	2
	38	0	SlapBas2	1
		126	E-Organ1	2
		127	atmosphr	2
	39	0	SynBass1	1
		1	SynBa1Dk	1
		8	AcidBass	1
		9	FastResB	1
		10	TeknoBa	2
		16	ResoBass	1
		126	E-Organ2	2
		127	syn warm	2
	40	0	SynBass2	2
		1	ClkSynBa	2
		2	ModulrBa	2
		3	Seq Bass	2
		8	DX Bass	2
		9	X WireBa	2
		16	RubberBa	2
		17	SynBa2Dk	1
		18	MelloSB1	1
		19	SmthBa 2	2
		126	E-Organ3	2
		127	synfunny	1

Instrument Group	Program #	Bank #	Voice Name	Element
Strings	41	0	Violin	1
		8	SlowVln	1
		126	E-Organ4	2
		127	synecho1	2
	42	0	Viola	1
		126	E-Organ5	2
		127	rain	2
	43	0	Cello	1
		126	E-Organ6	2
		127	synoboe	2
	44	0	Contrabs	1
		126	E-Organ7	2
		127	synecho2	2
	45	0	Trem.Str	1
		8	SlowTrStr	1
		9	Susp Str	2
		126	E-Organ8	2
		127	synsolo	2
	46	0	Pizz.Str	1
		126	E-Organ9	2
		127	synrdorg	2
	47	0	Harp	1
		126	SoftTP-1	1
		127	synbell	1
	48	0	Timpani	1
		126	SoftTP-2	1
		127	squareld	2
Ensemble	49	0	Strings1	1
		1	Slow Str	1
		8	Orchestr	2
		9	Orchstr2	2
		10	TremOrch	2
		11	ChoirStr	2
		16	S.Strngs	2
		24	VeloStr	2
		126	TP/TRB-1	1
		127	strsect1	2
	50	0	Strings2	1
		1	70s Str	1
		8	LegatoSt	2
		9	Warm Str	2
		10	S.SlwStr	2
		126	TP/TRB-2	1
		127	strsect2	2
	51	0	Syn.Str1	2
		1	Syn Str4	2
		126	TP/TRB-3	1
		127	strsect3	2
	52	0	Syn.Str2	2
		126	TP/TRB-4	1
		127	pizz.str	1
	53	0	ChoirAah	1
		8	S.Choir	2
		9	MelChoir	2
		32	Ch.Aahs2	2
		126	TP/TRB-5	2
		127	violin 1	2
	54	0	VoiceOoh	1
		126	TP/TRB-6	2
		127	violin 2	1
	55	0	SynVoice	1
		8	SynVox2	2
		126	Sax-1	1
		127	cello 1	1
	56	0	Orch.Hit	2
		1	OrchHit2	2
		8	Impact	2
		16	LoFiRave	2
		126	Sax-2	1
		127	cello 2	1

Instrument Group	Program #	Bank #	Voice Name	Element
Brass	57	0	Trumpet	1
		1	Trumpet2	1
		24	BriteTrp	2
		25	WarmTrp	2
		126	Sax-3	1
		127	contrabs	1
	58	0	Trombone	1
		1	Trmbone2	2
		126	Sax-4	2
		127	harp 1	1
	59	0	Tuba	1
		1	Tuba 2	1
		126	Brass-1	1
		127	harp 2	1
	60	0	Mute.Trp	1
		126	Brass-2	1
		127	guitar 1	1
	61	0	Fr.Horn	2
		1	FrHorn2	2
		8	FrHrSolo	1
		16	HornOrch	2
		126	Brass-3	2
		127	guitar 2	1
	62	0	BrasSect	1
		8	BrssSec2	2
		126	Brass-4	2
		127	elecgtr1	2
	63	0	SynBras1	2
		1	PolyBrss	2
		8	SynBras3	2
		9	QuackBr	2
		16	AnaBrss1	2
		126	Brass-5	2
		127	elecgtr2	2
	64	0	SynBras2	1
		1	Soft Brs	2
		8	SynBras4	2
		16	AnaBrss2	2
		17	VelBras2	2
		126	Orch-Hit	1
		127	sitar	1
Reed	65	0	SprnoSax	1
		127	a.bass 1	1
	66	0	Alto Sax	1
		8	HyprAlto	2
		127	a.bass 2	1
	67	0	TnrSax 2	1
		8	BrthTnSx	2
		127	e.bass 1	1
	68	0	Bari.Sax	1
		127	e.bass 2	1
	69	0	Oboe	2
		127	slapbas1	1
	70	0	Eng.Horn	1
		127	slapbas2	1
	71	0	Bassoon	1
		127	fretles1	1
	72	0	Clarinet	1
		127	fretles2	1
Pipe	73	0	Piccolo	1
		127	flute1	1
	74	0	Flute	1
		127	flute2	1
	75	0	Recorder	1
		127	piccolo1	1
	76	0	PanFlute	1
		127	piccolo2	2
	77	0	Bottle	2
		127	recorder	1
	78	0	Shakhchi	2
		127	panpipes	2
	79	0	Whistle	1
		127	sax1	2
	80	0	Ocarina	1
		127	sax2	1

Instrument Group	Program #	Bank #	Voice Name	Element
Synth Lead	81	0	SquareLd	2
		1	Square 2	1
		2	Hollow	1
		3	Mellow	2
		4	SoloSine	2
		5	Shmoog	2
		6	LMSquare	2
		8	SineLead	1
		127	sax3	1
	82	0	Saw.Lead	2
		1	Saw 2	1
		2	PulseSaw	2
		3	ThickSaw	2
		4	Big Lead	2
		5	VeloLead	2
		6	HeavySyn	2
		7	DynaSaw	1
		8	Dr. Lead	2
		16	WaspySyn	2
		127	sax4	1
	83	0	CaliopLd	2
		2	Pure Pad	2
		127	clarint1	1
	84	0	Chiff Ld	2
		127	clarint2	1
	85	0	CharanLd	2
		8	DistLead	2
		127	oboe	1
	86	0	Voice Ld	2
		127	eng.horn	1
	87	0	Fifth Ld	2
		1	Big Five	2
		127	bassoon	1
	88	0	Bass &Ld	2
		1	Big&Low	2
		2	Fat&Prky	2
		127	harmnica	1
Synth Pad	89	0	NewAgePd	2
		1	Fantasy2	2
		127	trumpet1	1
	90	0	Warm Pad	2
		1	ThickPad	2
		2	Horn Pad	2
		3	RotarStr	2
		4	Soft Pad	2
		127	trumpet2	1
	91	0	PolySyPd	2
		1	PolyPd80	2
		127	trmbone1	2
	92	0	ChoirPad	2
		1	Heaven2	2
		127	trmbone2	2
	93	0	BowedPad	2
		127	fr.horn1	1
	94	0	MetalPad	2
		1	Tine Pad	2
		2	Pan Pad	2
		127	fr.horn2	2
	95	0	Halo Pad	2
		127	tuba	2
	96	0	SweepPad	2
		1	PolarPad	2
		8	Converge	2
		9	Shwimmer	2
		10	Celstial	2
		127	brssect1	1

Instrument Group	Program #	Bank #	Voice Name	Element
Synth Effects	97	0	Rain	2
		1	HrmoRain	2
		2	AfrcnWnd	2
		8	ClaviPad	2
		127	brssect2	2
	98	0	SoundTrk	2
		1	Ancestrl	2
		2	Prologue	2
		127	vibe1	1
	99	0	Crystal	2
		1	SynMalet	1
		2	SftCryst	2
		3	RndGlock	2
		4	LoudGlok	2
		5	GlockChi	2
		6	ClearBel	2
		7	XmasBell	2
		8	VibeBell	2
		9	DigiBell	2
		16	ChorBell	2
		17	AirBells	2
		18	BellHarp	2
		19	Gamelmba	2
		127	vibe2	1
	100	0	Atmosphr	2
		1	WarmAtms	2
		2	NylnHarp	2
		3	Harp Vox	2
		4	HollwRls	2
		5	NylonEP	2
		6	AtmosPad	2
		127	symallet	1
	101	0	Bright	2
		127	maletwin	2
	102	0	Goblins	2
		1	GobSyn	2
		2	50sSciFi	2
		127	glocken	2
	103	0	Echoes	2
		1	EchoBell	2
		2	Echo Pan	2
		3	EchoPad2	2
		4	Big Pan	2
		6	SynPiano	2
		127	tubulbel	1
	104	0	Sci-Fi	2
		1	Starz	2
		127	xylophen	1
Ethnic	105	0	Sitar	1
		1	Sitar 2	2
		2	DetSitar	2
		8	Tambra	2
		16	Tamboura	2
		127	marimba	2
	106	0	Banjo	1
		1	MuteBnjo	1
		8	Rabab	2
		16	Gopichnt	2
		24	Oud	2
		127	koto	1
	107	0	Shamisen	1
		127	sho	2
	108	0	Koto	1
		8	T. Koto	2
		16	Kanoon	2
		127	shakhchi	2
	109	0	Kalimba	1
		127	whistle1	2
	110	0	Bagpipe	2
		127	whistle2	1
	111	0	Fiddle	1
		127	bottle	2
	112	0	Shanai	1
		1	Shanai2	1
		8	Pungi	1
		16	Hichriki	2
		127	breath	2

Instrument Group	Program #	Bank #	Voice Name	Element
Percussive	113	0	TnklBell	2
		8	Bonang	2
		9	Gender	2
		10	Gamelan	2
		11	S.Gamlan	2
		16	Rama Cym	2
		127	timpani	1
	114	0	Agogo	2
		127	melotom	1
	115	0	SteelDrm	2
		127	deepsnar	1
	116	0	WoodBlok	1
		8	Castanet	1
		127	e.perc1	1
	117	0	TaikoDrm	1
		8	Gr.Cassa	1
		127	e.perc2	1
	118	0	MelodTom	2
		1	Real Tom	2
		8	Mel Tom2	1
		9	Rock Tom	2
		127	taiko	1
	119	0	Syn.Drum	1
		8	Ana Tom	1
		9	ElecPerc	2
		127	taikorim	1
	120	0	RevCymbl	1
		127	cymbal	2
Sound Effects	121	0	FretNoiz	2
		1	CuttngNz	1
		2	Str Slap	1
		3	CttngNz2	2
		127	castanet	1
	122	0	BrthNoiz	2
		1	Fl.KClik	1
		127	triangle	1
	123	0	Seashore	2
		1	Rain	1
		2	Thunder	1
		3	Wind	1
		4	Stream	2
		5	Bubble	2
		127	orchehit	1
	124	0	Tweet	2
		1	Dog	1
		2	Horse	1
		3	Bird 2	1
		127	telphone	1
	125	0	Telphone	1
		1	Tel.Dial	1
		2	DoorSqek	1
		3	DoorSlam	1
		4	Scratch	1
		5	WindChm	1
		6	Scratch2	2
		127	bird	1
	126	0	Helicptr	1
		1	CarEngin	1
		2	Car Stop	1
		3	Car Pass	1
		4	CarCrash	1
		5	Siren	2
		6	Train	1
		7	Jetplane	2
		8	Starship	2
		9	Burst	2
		16	Coaster	2
		127	jam	1
	127	0	Applause	1
		1	Laughing	1
		2	Scream	1
		3	Punch	1
		4	Heart	1
		5	FootStep	1
		127	efctwatr	2
	128	0	Gunshot	1
		1	MchinGun	1
		2	LaserGun	2
		3	Xplosion	2
		127	efctjngl	2

TG300B Drum Voice List

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

: Same as Standard Kit

: No Sound

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

Some of the C/M Kit instruments in common with the Standard Kit differ from those of the Standard Kit in effect send level or pan settings etc., even though the instrument itself is the same.

Effect Type List

REVERB

Exclusive		Effect Type	Remarks
MSB	LSB		
0	0	NO EFFECT	Turn off the effect.
1	0	HALL1	Reverb simulating the acoustics of a hall.
1	1	HALL2	
2	0	ROOM1	Reverb simulating the acoustics of a room.
2	1	ROOM2	
2	2	ROOM3	
3	0	STAGE1	Reverb appropriate for a solo instrument.
3	1	STAGE2	
4	0	PLATE	Reverb simulating a metal plate reverb device.

CHORUS

Exclusive		Effect Type	Remarks
MSB	LSB		
0	0	NO EFFECT	Turn off the effect.
41	0	CHORUS1	A standard chorus effect, adding natural spaciousness to the sound.
41	1	CHORUS2	
41	2	CHORUS3	
42	0	CELESTE1	An effect which uses a 3-phase LFO to add modulation and spaciousness to the sound.
42	1	CELESTE2	
42	2	CELESTE3	
43	0	FLANGER1	An effect reminiscent of a jet airplane taking off and landing.
43	1	FLANGER2	

VARIATION

Exclusive		Effect Type	Remarks
MSB	LSB		
0	0	NO EFFECT	Turn off the effect.
1	0	HALL1	Reverb simulating the acoustics of a hall.
1	1	HALL2	
2	0	ROOM1	Reverb simulating the acoustics of a room.
2	1	ROOM2	
2	2	ROOM3	
3	0	STAGE1	Reverb appropriate for a solo instrument.
3	1	STAGE2	
4	0	PLATE	Reverb simulating a metal plate reverb device.
5	0	DELAY L,C,R	Three delay sounds L, R and C (center).
6	0	DELAY L,R	Two delay sounds L and R, with two feedback delays.
7	0	ECHO	Two delays L and R, with independent feedback delay for L and R.
8	0	CROSS DELAY	This effect crosses the feedback of two delays.
9	0	EARLY REF1	This effect isolates only the early reflection components of the reverb.
9	1	EARLY REF2	
0A	0	GATE REVERB	Simulation of gated reverb.
0B	0	REVERSE GATE	Simulation of gated reverb played back in reverse.
41	0	CHORUS1	A standard chorus effect, adding natural spaciousness to the sound.
41	1	CHORUS2	
41	2	CHORUS3	
42	0	CELESTE1	An effect which uses a 3-phase LFO to add modulation and spaciousness to the sound.
42	1	CELESTE2	
42	2	CELESTE3	
43	0	FLANGER1	An effect reminiscent of a jet airplane taking off and landing.
43	1	FLANGER2	
44	0	SYMPHONIC	A multi-stage version of CELESTE modulation.
45	0	ROTARY SPEAKER	Simulation of a rotary speaker. AC1 (assignable controller 1) etc. can be used to control the ro tation speed.
46	0	TREMOLO	An effect which cyclically modulates the volume.
47	0	AUTO PAN	An effect which cyclically moves the sound between left/right and front/back.
48	0	PHASER1	Cyclically changes the phase to modulate the sound.
48	8	PHASER2	
49	0	DISTORTION	Adds a hard-edged distortion to the sound.
4A	0	OVER DRIVE	Adds mild distortion to the sound.
4B	0	AMP SIMULATOR	Simulation of a guitar amp.
4C	0	3BAND EQ(MONO)	Mono EQ with equalization of LOW, MID and HIGH.
4D	0	2BAND EQ(STEREO)	Stereo EQ with equalization of LOW and HIGH. Ideal for Drum Parts.
4E	0	AUTO WAH(LFO)	Cyclically changes the center frequency of a wah filter. Can also be used with AC1 etc. as a pedal wah.
40	0	THRU	Bypass without applying an effect.

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

Effect Parameter List

■HALL1,2, ROOM1,2,3, STAGE1,2, PLATE

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

■CROSS DELAY

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

■DELAY L,C,R

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

■EARLY REF1,2

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

■DELAY L,R

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

■GATE REVERB, REVERSE GATE

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

■ECHO

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

■CHORUS1,2,3, CELESTE1,2,3

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

● : Can be controlled by AC1 (Assignable Controller 1)

No.* : These numbers correspond to the Parameter Suffix numbers in <Table 1-3> of the MIDI Data Format.

→table ** : Refer to “Effect Data Assign Table”.

■FLANGER1,2

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

■AUTO PAN

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

■SYMPHONIC

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

■PHASER1,2

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

■ROTARY SPEAKER

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

■DISTORTION, OVERDRIVE

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

■TREMOLO

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

■GUITAR AMP SIMULATOR

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

● : Can be controlled by AC1 (Assignable Controller 1)

No.* : These numbers correspond to the Parameter Suffix numbers in <Table 1-3> of the MIDI Data Format.

→table ** : Refer to “Effect Data Assign Table”.

■ **3-BAND EQ**

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

■ **2-BAND EQ**

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

■ **AUTO WAH**

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

● : Can be controlled by AC1 (Assignable Controller 1)

No.* : These numbers correspond to the Parameter Suffix numbers in <Table 1-3> of the MIDI Data Format.

→table ** : Refer to “Effect Data Assign Table”.

Effect Data Assign Table

Table#1

LFO Frequency (Hz)

Data	Value	Data	Value	Data	Value
0	0.00	43	1.81	86	5.38
1	0.04	44	1.85	87	5.55
2	0.08	45	1.89	88	5.72
3	0.13	46	1.94	89	6.06
4	0.17	47	1.98	90	6.39
5	0.21	48	2.02	91	6.73
6	0.25	49	2.06	92	7.07
7	0.29	50	2.10	93	7.40
8	0.34	51	2.15	94	7.74
9	0.38	52	2.19	95	8.08
10	0.42	53	2.23	96	8.41
11	0.46	54	2.27	97	8.75
12	0.51	55	2.31	98	9.08
13	0.55	56	2.36	99	9.42
14	0.59	57	2.40	100	9.76
15	0.63	58	2.44	101	10.10
16	0.67	59	2.48	102	10.80
17	0.72	60	2.52	103	11.40
18	0.76	61	2.57	104	12.10
19	0.80	62	2.61	105	12.80
20	0.84	63	2.65	106	13.50
21	0.88	64	2.69	107	14.10
22	0.93	65	2.78	108	14.80
23	0.97	66	2.86	109	15.50
24	1.01	67	2.94	110	16.20
25	1.05	68	3.03	111	16.80
26	1.09	69	3.11	112	17.50
27	1.14	70	3.20	113	18.20
28	1.18	71	3.28	114	19.50
29	1.22	72	3.37	115	20.90
30	1.26	73	3.45	116	22.20
31	1.30	74	3.53	117	23.60
32	1.35	75	3.62	118	24.90
33	1.39	76	3.70	119	26.20
34	1.43	77	3.87	120	27.60
35	1.47	78	4.04	121	28.90
36	1.51	79	4.21	122	30.30
37	1.56	80	4.37	123	31.60
38	1.60	81	4.54	124	33.00
39	1.64	82	4.71	125	34.30
40	1.68	83	4.88	126	37.00
41	1.72	84	5.05	127	39.70
42	1.77	85	5.22		

Table#2

Modulation Delay Offset (ms)

Data	Value	Data	Value	Data	Value
0	0.0	43	4.3	86	8.6
1	0.1	44	4.4	87	8.7
2	0.2	45	4.5	88	8.8
3	0.3	46	4.6	89	8.9
4	0.4	47	4.7	90	9.0
5	0.5	48	4.8	91	9.1
6	0.6	49	4.9	92	9.2
7	0.7	50	5.0	93	9.3
8	0.8	51	5.1	94	9.4
9	0.9	52	5.2	95	9.5
10	1.0	53	5.3	96	9.6
11	1.1	54	5.4	97	9.7
12	1.2	55	5.5	98	9.8
13	1.3	56	5.6	99	9.9
14	1.4	57	5.7	100	10.0
15	1.5	58	5.8	101	11.1
16	1.6	59	5.9	102	12.2
17	1.7	60	6.0	103	13.3
18	1.8	61	6.1	104	14.4
19	1.9	62	6.2	105	15.5
20	2.0	63	6.3	106	17.1
21	2.1	64	6.4	107	18.6
22	2.2	65	6.5	108	20.2
23	2.3	66	6.6	109	21.8
24	2.4	67	6.7	110	23.3
25	2.5	68	6.8	111	24.9
26	2.6	69	6.9	112	26.5
27	2.7	70	7.0	113	28.0
28	2.8	71	7.1	114	29.6
29	2.9	72	7.2	115	31.2
30	3.0	73	7.3	116	32.8
31	3.1	74	7.4	117	34.3
32	3.2	75	7.5	118	35.9
33	3.3	76	7.6	119	37.5
34	3.4	77	7.7	120	39.0
35	3.5	78	7.8	121	40.6
36	3.6	79	7.9	122	42.2
37	3.7	80	8.0	123	43.7
38	3.8	81	8.1	124	45.3
39	3.9	82	8.2	125	46.9
40	4.0	83	8.3	126	48.4
41	4.1	84	8.4	127	50.0
42	4.2	85	8.5		

Table#3

EQ Frequency (Hz)

Data	Value	Data	Value
0	THRU(20)	43	2.8k
1	22	44	3.2k
2	25	45	3.6k
3	28	46	4.0k
4	32	47	4.5k
5	36	48	5.0k
6	40	49	5.6k
7	45	50	6.3k
8	50	51	7.0k
9	56	52	8.0k
10	63	53	9.0k
11	70	54	10.0k
12	80	55	11.0k
13	90	56	12.0k
14	100	57	14.0k
15	110	58	16.0k
16	125	59	18.0k
17	140	60	THRU(20.0k)
18	160		
19	180		
20	200		
21	225		
22	250		
23	280		
24	315		
25	355		
26	400		
27	450		
28	500		
29	560		
30	630		
31	700		
32	800		
33	900		
34	1.0k		
35	1.1k		
36	1.2k		
37	1.4k		
38	1.6k		
39	1.8k		
40	2.0k		
41	2.2k		
42	2.5k		

Table#4

Reverb Time (s)

Data	Value	Data	Value
0	0.3	43	4.6
1	0.4	44	4.7
2	0.5	45	4.8
3	0.6	46	4.9
4	0.7	47	5.0
5	0.8	48	5.5
6	0.9	49	6.0
7	1.0	50	6.5
8	1.1	51	7.0
9	1.2	52	7.5
10	1.3	53	8.0
11	1.4	54	8.5
12	1.5	55	9.0
13	1.6	56	9.5
14	1.7	57	10.0
15	1.8	58	11.0
16	1.9	59	12.0
17	2.0	60	13.0
18	2.1	61	14.0
19	2.2	62	15.0
20	2.3	63	16.0
21	2.4	64	17.0
22	2.5	65	18.0
23	2.6	66	19.0
24	2.7	67	20.0
25	2.8	68	25.0
26	2.9	69	30.0
27	3.0		
28	3.1		
29	3.2		
30	3.3		
31	3.4		
32	3.5		
33	3.6		
34	3.7		
35	3.8		
36	3.9		
37	4.0		
38	4.1		
39	4.2		
40	4.3		
41	4.4		
42	4.5		

Table#5

Delay Time (ms)

Data	Value	Data	Value	Data	Value
0	0.1	43	67.8	86	135.5
1	1.7	44	69.4	87	137.0
2	3.2	45	70.9	88	138.6
3	4.8	46	72.5	89	140.2
4	6.4	47	74.1	90	141.8
5	8.0	48	75.7	91	143.3
6	9.5	49	77.2	92	144.9
7	11.1	50	78.8	93	146.5
8	12.7	51	80.4	94	148.1
9	14.3	52	81.9	95	149.6
10	15.8	53	83.5	96	151.2
11	17.4	54	85.1	97	152.8
12	19.0	55	86.7	98	154.4
13	20.6	56	88.2	99	155.9
14	22.1	57	89.8	100	157.5
15	23.7	58	91.4	101	159.1
16	25.3	59	93.0	102	160.6
17	26.9	60	94.5	103	162.2
18	28.4	61	96.1	104	163.8
19	30.0	62	97.7	105	165.4
20	31.6	63	99.3	106	166.9
21	33.2	64	100.8	107	168.5
22	34.7	65	102.4	108	170.1
23	36.3	66	104.0	109	171.7
24	37.9	67	105.6	110	173.2
25	39.5	68	107.1	111	174.8
26	41.0	69	108.7	112	176.4
27	42.6	70	110.3	113	178.0
28	44.2	71	111.9	114	179.5
29	45.7	72	113.4	115	181.1
30	47.3	73	115.0	116	182.7
31	48.9	74	116.6	117	184.3
32	50.5	75	118.2	118	185.8
33	52.0	76	119.7	119	187.4
34	53.6	77	121.3	120	189.0
35	55.2	78	122.9	121	190.6
36	56.8	79	124.4	122	192.1
37	58.3	80	126.0	123	193.7
38	59.9	81	127.6	124	195.3
39	61.5	82	129.2	125	196.9
40	63.1	83	130.7	126	198.4
41	64.6	84	132.3	127	200.0
42	66.2	85	133.9		

Table#6

Room Size (meter)

Data	Value	Data	Value
0	0.1	43	6.8
1	0.3	44	7.0
2	0.4		
3	0.6		
4	0.7		
5	0.9		
6	1.0		
7	1.2		
8	1.4		
9	1.5		
10	1.7		
11	1.8		
12	2.0		
13	2.1		
14	2.3		
15	2.5		
16	2.6		
17	2.8		
18	2.9		
19	3.1		
20	3.2		
21	3.4		
22	3.5		
23	3.7		
24	3.9		
25	4.0		
26	4.2		
27	4.3		
28	4.5		
29	4.6		
30	4.8		
31	5.0		
32	5.1		
33	5.3		
34	5.4		
35	5.6		
36	5.7		
37	5.9		
38	6.1		
39	6.2		
40	6.4		
41	6.5		
42	6.7		

By sending various types of MIDI messages you can directly control and change the settings on the WF192XG soundcard. Please refer to the owner's manual of your software for information about how to transmit MIDI messages to the WF192XG soundcard.

1. CHANNEL MESSAGES

1.1 Key On / Key Off

Messages which are generated when the keyboard is played.
Reception note range = C-2 (0)-G8 (127), C3 = 60
Velocity range = 1-127 (Only the Key On velocity is received)

Key On: Generated when a key is pressed.
Key Off: Generated when a key is released.
Each message includes a specific note number which corresponds to the key which is pressed, plus a velocity value based on how hard the key is struck.
If the Multi Part parameter Rcv NOTE MESSAGE (Table 1-4) = OFF for a specific Part, that Part will ignore Key On and Key Off messages.
If the Drum Setup parameter Rcv NOTE OFF (Table 1-5) = OFF, the Drum Part will ignore Key Off messages.
If the Drum Setup parameter Rcv NOTE ON = OFF (Table 1-5), the Drum Part will ignore Key On messages.

1.2 Control Change

Messages which control volume, panning, and other controller parameters.
Each type of Control Change message is assigned to a specific control number.
If the Multi Part parameter for each Control Change Receive (Table 1-4, nn30-nn40) = OFF, that Part will ignore the specific Control Change message.

1.2.1 Bank Select

Messages which select variation Voice bank numbers.

CNTRL#	PARAMETER	DATA RANGE
0	Bank Select MSB	0...127
32	Bank Select LSB	0...127

You can select the Voice banks with MSB and LSB numbers. MSB and LSB functions differently depending on the sound module mode.
In XG mode, MSB numbers select Voice type (Normal Voice or Drum Voice), and LSB numbers select Voice banks. In TG300B mode, LSB is fixed, and MSB numbers select Voice banks.(See XG/TG300B normal voice list, XG/TG300B drum voice list, S-VA voice list.)

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

1.2.2 Modulation

Messages which control vibrato depth.

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

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

1.2.3 Breath Controller

CNTRL#	PARAMETER	DATA RANGE
2	Breath Controller	0...127

Effective only for S-VA voices.

1.2.4 Foot Controller

CNTRL#	PARAMETER	DATA RANGE
4	Foot Controller	0...127

Effective only for S-VA voices.

1.2.5 Portamento Time

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

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

When the parameter 1.2.12 Portamento = ON, this adjusts the speed of pitch change.
A setting of 0 = minimum portamento time, and 127 = maximum portamento time.

1.2.6 Data Entry

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

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

Parameter value is determined by combining MSB and LSB.

1.2.7 Main Volume

Messages which control the volume of each Part.

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

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

1.2.8 Pan

Messages which control the stereo panning position of each Part.

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

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

1.2.9 Expression

Messages which control intonation expression of each Part.

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

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

1.2.10 Control Change 13

CNTRL#	PARAMETER	DATA RANGE
13	Control Change 13	0...127

Effective only for S-VA voices.

1.2.11 Hold1

Messages which control sustain on/off.

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

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

1.2.12 Portamento

Messages which control portamento on/off.

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

Settings between 0-63 = portamento off, and settings between 64-127 = portamento on.
The parameter 1.2.5 Portamento Time controls the portamento speed.

1.2.13 Sostenuto

Messages which control sostenuto on/off.

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

Holding specific notes and then pressing and holding the sostenuto pedal will sustain those notes as you play subsequent notes, until the pedal is released.
Settings between 0-63 = sostenuto off, and settings between 64-127 = sostenuto on.

Ineffective for S-VA voices.

1.2.14 Soft Pedal

Messages which control soft pedal on/off.

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

Notes played while holding the soft pedal will be dampened. Settings between 0-63 = soft pedal off, and settings between 64-127 = soft pedal on.

1.2.15 Harmonic Content

Messages which adjust the resonance set for each Voice.

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

The value set here is an offset value which will be added to or subtracted from the Voice data.
Higher values will result in a more resonant sound.
Depending on the Voice, the effective range may be narrower than the range available for adjustment.

1.2.16 Release Time

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

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

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

1.2.17 Attack Time

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

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

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

1.2.18 Brightness

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

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

The value set here is an offset value which will be added to or subtracted from the Voice data.
Lower values will result in a softer sound.
Depending on the Voice, the effective range may be narrower than the range available for adjustment.

1.2.19 Portamento Control

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

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

Portamento Control is transmitted specifying the Note On Key of the currently-sounding note.
Specify a Portamento Source Key number between 0-127.
When a Portamento Control message is received, the currently sounding pitch will change with a Portamento Time of 0 to the next Key On key on the same channel.
For example, the following settings would apply a portamento from note C3 to C4.

```
90  3C   7F    C3 = Key On
B0  54   3C    Source Key number set to C3
90  48   7F    C4 = Key On (When C4 = on, C3 is
               raised by a portamento to C4.)
```

Even if the Multi Part parameter Rcv PORTAMENTO (Table 1-4) = OFF, the Portamento Control message will be received.

Ineffective for S-VA voices.

1.2.20 Effect1 Depth (Reverb Send Level)

Messages which adjust the send level for the Reverb effect.

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

1.2.21 Effect3 Depth (Chorus Send Level)

Messages which adjust the send level for the Chorus effect.

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

1.2.22 Effect4 Depth (Variation Effect Send Level)

Messages which adjust the send level for the Variation effect.

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

If Variation Connection (Table 1-3) = 1 (System), this message sets the send level for the Variation effect.
If Variation Connection = 0 (Insertion), this has no effect.

1.2.23 Data Increment / Decrement (for RPN)

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

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

The data byte is ignored.
When the maximum value or minimum value is reached, the value will not be incremented or decremented further. (Incrementing the Fine Tune will not cause the Coarse Tune to be incremented.)

1.2.24 NRPN (Non-Registered Parameter Number)

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

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

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

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

The following NRPN numbers can be received.

NRPN MSB	NRPN LSB	DATA ENTRY MSB	PARAMETER NAME and VALUE RANGE
01H	08H	mmH	Vibrato Rate mm : 00H-40H-7FH (-64 - 0 - +63)
01H	09H	mmH	Vibrato Depth mm : 00H-40H-7FH (-64 - 0 - +63)
01H	0AH	mmH	Vibrato Delay mm : 00H-40H-7FH (-64 - 0 - +63)
01H	20H	mmH	Filter Cutoff Frequency mm : 00H-40H-7FH (-64 - 0 - +63)
01H	21H	mmH	Filter Resonance mm : 00H-40H-7FH (-64 - 0 - +63)
01H	22H	mmH	Filter EG Depth mm : 00H-40H-7FH (-64 - 0 - +63) *Effective only for S-VA voices.
01H	30H	mmH	Bass mm : 00H-40H-7FH (-64 - 0 - +63) *Effective only for S-VA voices.
01H	31H	mmH	Treble mm : 00H-40H-7FH (-64 - 0 - +63) *Effective only for S-VA voices.
01H	63H	mmH	EG Attack Time mm : 00H-40H-7FH (-64 - 0 - +63)
01H	64H	mmH	EG Decay Time mm : 00H-40H-7FH (-64 - 0 - +63)
01H	66H	mmH	EG Release Time mm : 00H-40H-7FH (-64 - 0 - +63)
14H	rrH	mmH	Drum Filter Cutoff Frequency mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
15H	rrH	mmH	Drum Filter Resonance mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
16H	rrH	mmH	Drum EG Attack Rate mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
17H	rrH	mmH	Drum EG Decay Rate mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number Applies to both Decay1 and 2.
18H	rrH	mmH	Drum Instrument Pitch Coarse mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
19H	rrH	mmH	Drum Instrument Pitch Fine mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
1AH	rrH	mmH	Drum Instrument Level mm : 00-7F (0-max) rr : drum instrument note number
1CH	rrH	mmH	Drum Instrument Pan mm : 00H, 01H-40H-7FH(random, left-center-right) rr : drum instrument note number
1DH	rrH	mmH	Drum Instrument Reverb Send Level mm : 00H-7FH (0-max) rr : drum instrument note number
1EH	rrH	mmH	Drum Instrument Chorus Send Level mm : 00H-7FH (0-max) rr : drum instrument note number
1FH	rrH	mmH	Drum Instrument Variation Send Level mm : 00H-7FH (0-max) rr : drum instrument note number

MSB 14H-1FH (for Drum) is valid only if the Multi Part parameter (Table 1-4) PART MODE = DRUMS1 or DRUMS2 for that channel. (If PART MODE = DRUM, no values will be changed.)

1.2.25 RPN (Registered Parameter Number)

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

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

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

The following RPN numbers can be received.

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

1.2.26 Channel Mode Messages

The following Channel Mode Messages can be received.

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

1.2.26.1 All Sounds Off

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

1.2.26.2 Reset All Controllers

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

CONTROLLER	VALUE
Pitch Bend Change	+/-0 (center)
Channel Aftertouch	0 (off)
Polyphonic Aftertouch	0 (off)
Modulation	0 (off)
Breath Control	127 (max)
Foot Control	127 (max)
Expression	127 (max)
Control Change13	+/-0 (center)
Hold1	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft Pedal	0 (off)
Portamento Control	cancels the Portamento Source Key Number that was received.
RPN	number not specified; internal data will not change.
NRPN	number not specified; internal data will not change.

1.2.26.3 All Notes Off

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

1.2.26.4 Omni Off

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

1.2.26.5 Omni On

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

1.2.26.6 Mono

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

1.2.26.7 Poly

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

1.3 Program Change

Messages for Voice selection.

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

If the Multi Part parameter Rcv PROGRAM CHANGE (Table 1-4) = OFF, that Part will not receive Program Change messages.

1.4 Pitch Bend

Messages for pitch bend wheel values.

If the Multi Part parameter Rcv PITCH BEND CHANGE (Table 1-4) = OFF, that Part will not receive Pitch Bend messages.

1.5 Channel Aftertouch

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

If the Multi Part parameter Rcv CHANNEL AFTER TOUCH (Table 1-4) = OFF, that Part will not receive Channel Aftertouch.

1.6 Polyphonic Aftertouch

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

If the Multi Part parameter Rcv POLYPHONIC AFTER TOUCH (Table 1-4) = OFF, that Part will not receive Polyphonic Aftertouch. Effective range is between note numbers 36-97.

2. SYSTEM EXCLUSIVE MESSAGES

System Exclusive messages control various functions of the WF192XG soundcard, including master volume and master tuning, play mode, effect type and various other parameters.

* The device number of the WF192XG soundcard is fixed to "All".

2.1 Parameter Change

The WF192XG soundcard receives the following parameter change messages.

[UNIVERSAL REALTIME MESSAGE]

1) Master Volume

[UNIVERSAL NON REALTIME MESSAGE]

1) General MIDI Mode On

[XG NATIVE PARAMETER CHANGE]

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

[VL70-m NATIVE PARAMETER CHANGE]

1) S-VA System parameter change
2) S-VA Current Voice/Common Misc parameter change
3) S-VA Part parameter change
4) S-VA Current Voice/Element parameter change

[OTHER]

1) Master tuning
2) TG300 System Data parameter change
3) TG300 Multi Effect Data parameter change
4) TG300 Multi Part Data parameter change

2.1.1 Universal Realtime Messages

2.1.1.1 Master Volume

11110000	F0	Exclusive status
01111111	7F	Universal Real Time
01111111	7F	ID of target device
00000100	04	Sub-ID #1=Device Control Message
00000001	01	Sub-ID #2=Master Volume
0sssssss	ss*	Volume LSB
0ttttttt	tt	Volume MSB
11110111	F7	End of Exclusive
or,		
11110000	F0	Exclusive status
01111111	7F	Universal Real Time
0xxxnnnn	xn	Device Number, xxx=irrelevant
00000100	04	Sub-ID #1=Device Control Message
00000001	01	Sub-ID #2=Master Volume
0sssssss	ss	Volume LSB
0ttttttt	tt	Volume MSB
11110111	F7	End of Exclusive

When received, the Volume MSB will be effective for the System Parameter MASTER VOLUME (Table 1-2).

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

2.1.2 Universal Non-Realtime Messages

2.1.2.1 General MIDI Mode On

11110000	F0	Exclusive status
01111110	7E	Universal Non-Real Time
01111111	7F	ID of target device
00001001	09	Sub-ID #1=General MIDI Message
00000001	01	Sub-ID #2=General MIDI On
11110111	F7	End of Exclusive
or,		
11110000	F0	Exclusive status
01111110	7E	Universal Non-Real Time
0xxxnnnn	xn	Device Number, xxx = irrelevant
00001001	09	Sub-ID #1=General MIDI Message
00000001	01	Sub-ID #2=General MIDI On
11110111	F7	End of Exclusive

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

When this happens, the WF192XG soundcard will receive the MIDI messages which compatible with GM System Level 1, and consequently will not receive NRPN and Bank Select messages.

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

2.1.3 XG Native Parameter Change

With the Parameter Change messages as listed below, you can change the basic character or sound of a Voice, such as by effect type or effect parameter, transpose, tuning, and others.

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

* Any number is OK since the device number for the WF192XG soundcard is fixed to “All”.
For parameters with data size of 2 or 4, transmit the appropriate number of data bytes.
When sending the parameter change messages consecutively, be sure to leave an appropriate interval (if the time base is 480, ca 5 clocks) between the messages.

EXAMPLE OF PARAMETER CHANGE

1. To change reverb effect type to Stage 1, first check the Effect Type List to identify the MSB and LSB numbers; for Stage 1 Reverb effect type numbers are MSB = 03, LSB = 00.
Next, check the Address in Table 1-3 for the REVERB TYPE parameter; in this case the address is High, Mid, Low = 02, 01, 00, respectively.
Apply these to the 2.1.3 XG Native Parameter Change list as follows:

```
11110000    F0       Exclusive status
01000011    43       YAMAHA ID
0001nnnn    1n*      Device Number
01001100    4C       XG Model ID
00000010    02       Address High
00000001    01       Address Mid
00000000    00       Address Low
00000011    03       Data (REVERB TYPE MSB)
00000000    00       Data (REVERB TYPE LSB)
11110111    F7       End of Exclusive
```

When this data is received, the WF192XG soundcard will change the effect type to Stage 1 Reverb.

* Any number is OK since the device number for the WF192XG soundcard is fixed to “All”.

2. To change the effect Dry/Wet balance of Stage 1 to 50% each, first check the Effect Parameter List, parameter number 10, to identify the Dry (50%)/Wet (50%); in this case the Dry=Wet value is 64 (hexadecimal 40).
Next, check the Address in Table 1-3 for the REVERB PARAMETER 10; in this case the address is High, Mid, Low = 02, 01, 0B, respectively.
Apply these to the 2.1.3 XG Native Parameter Change list as follows:

```
11110000    F0       Exclusive status
01000011    43       YAMAHA ID
0001nnnn    1n       Device Number
01001100    4C       XG Model ID
00000010    02       Address High
00000001    01       Address Mid
00001011    0B       Address Low
01000000    40       Data (MSB)
00000000    00       Data (LSB) *fixed at 00.
11110111    F7       End of Exclusive
```

When this data is received, the WF192XG soundcard will change the effect Dry/Wet balance of Stage 1 to 50% each.

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

2.1.3.1 XG System On

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

When this data is received, the WF192XG soundcard will switch to XG mode and all the parameters will be initialized accordingly, and XG-compatible messages such as NRPN and Bank Select messages can be received.
Since approximately 50ms is required to execute this message, be sure to leave an appropriate interval before the subsequent message.

SOUND MODULE MODE CHANGE (XG mode / TG300B mode)

```
XG System On = F0 43 1n 4c 00 00 7E 00 F7
TG300B Reset = F0 41 1n 42 12 40 00 7F 00 41 F7
          n = device number
```

2.1.3.2 XG System Data parameter change

See Tables 1-1 and 1-2.

2.1.3.3 Multi Effect1 Data parameter change

See Tables 1-1 and 1-3.

2.1.3.4 Multi Part Data parameter change

See Tables 1-1 and 1-4.

2.1.3.5 Drums Setup Data parameter change

See Tables 1-1 and 1-5.

If a Drum Setup Reset parameter change message (Table 1-2) is received, the Drum Setup parameter values will be initialized. Selecting a Drum Set will cause the Drum Setup parameter values to be initialized.

2.1.4 VL70-m Native Parameter Change

```
11110000     F0 Exclusive status
01000011     43 YAMAHA ID
0001nnnn     1n Device Number
01010111     57 Model ID
0aaaaaaa     aa Address High
0aaaaaaa     aa Address Mid
0aaaaaaa     aa Address Low
0ddddddd     dd Data
  |          |
11110111     F7 End of Exclusive
```

2.1.4.1 S-VA System parameter change

See Table 2-1.

2.1.4.2 S-VA Current Voice/Common Misc parameter change

See Table 2-2.

2.1.4.3 S-VA Part parameter change

See Table 2-3.

2.1.4.4 S-VA Current Voice/Element parameter change

See Table 2-4.

2.1.5 Other parameter changes

2.1.5.1 Master Tuning

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

This message simultaneously changes the pitch of all channels.

3. REALTIME MESSAGES

3.1 Active Sensing

Once FE has been received, if no MIDI data is subsequently received for longer than an interval of approximately 300msec, the WF192XG soundcard will perform the same function as when ALL SOUNDS OFF, ALL NOTES OFF, and RESET ALL CONTROLLERS messages are received, and will then return to a status in which FE is not monitored.

<Table 1-1>
Parameter Base Address
Model ID = 4C [XG]
57 [S-VA]

Parameter Change

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

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

n : Drum Setup number (0, 1)

<Table 1-2>
MIDI Parameter Change table (SYSTEM) [XG]

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

<Table 1-3>
MIDI Parameter Change table (EFFECT 1) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 00	2	00 - 7F	REVERB TYPE MSB	Refer to the Effect Type List	01(=HALL1)
		00 - 7F	REVERB TYPE LSB	00 : basic type	00
02	1	00 - 7F	REVERB PARAMETER 1	Refer to the Effect Parameter List	depends on reverb type
03	1	00 - 7F	REVERB PARAMETER 2	〃	〃
04	1	00 - 7F	REVERB PARAMETER 3	〃	〃
05	1	00 - 7F	REVERB PARAMETER 4	〃	〃
06	1	00 - 7F	REVERB PARAMETER 5	〃	〃
07	1	00 - 7F	REVERB PARAMETER 6	〃	〃
08	1	00 - 7F	REVERB PARAMETER 7	〃	〃
09	1	00 - 7F	REVERB PARAMETER 8	〃	〃
0A	1	00 - 7F	REVERB PARAMETER 9	〃	〃
0B	1	00 - 7F	REVERB PARAMETER 10	〃	〃
0C	1	00 - 7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)	40
0D	1	01 - 7F	REVERB PAN	L63...C...R63 (1...64...127)	40
TOTAL SIZE		0E			

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 10	1	00 - 7F	REVERB PARAMETER 11	Refer to the Effect Parameter List	depends on reverb type
11	1	00 - 7F	REVERB PARAMETER 12	″	″
12	1	00 - 7F	REVERB PARAMETER 13	″	″
13	1	00 - 7F	REVERB PARAMETER 14	″	″
14	1	00 - 7F	REVERB PARAMETER 15	″	″
15	1	00 - 7F	REVERB PARAMETER 16	″	″
TOTAL SIZE	6				

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 20	2	00 - 7F	CHORUS TYPE MSB	Refer to the Effect Type List	41 (=CHORUS1)
		00 - 7F	CHORUS TYPE LSB	00 : basic type	00
22	1	00 - 7F	CHORUS PARAMETER 1	Refer to the Effect Parameter List	depends on chorus type
23	1	00 - 7F	CHORUS PARAMETER 2	″	″
24	1	00 - 7F	CHORUS PARAMETER 3	″	″
25	1	00 - 7F	CHORUS PARAMETER 4	″	″
26	1	00 - 7F	CHORUS PARAMETER 5	″	″
27	1	00 - 7F	CHORUS PARAMETER 6	″	″
28	1	00 - 7F	CHORUS PARAMETER 7	″	″
29	1	00 - 7F	CHORUS PARAMETER 8	″	″
2A	1	00 - 7F	CHORUS PARAMETER 9	″	″
2B	1	00 - 7F	CHORUS PARAMETER 10	″	″
2C	1	00 - 7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)	40
2D	1	01 - 7F	CHORUS PAN	L63...C...R63 (1...64...127)	40
2E	1	00 - 7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00
TOTAL SIZE	0F				

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 30	1	00 - 7F	CHORUS PARAMETER 11	Refer to the Effect Parameter List	depends on chorus type
31	1	00 - 7F	CHORUS PARAMETER 12	″	″
32	1	00 - 7F	CHORUS PARAMETER 13	″	″
33	1	00 - 7F	CHORUS PARAMETER 14	″	″
34	1	00 - 7F	CHORUS PARAMETER 15	″	″
35	1	00 - 7F	CHORUS PARAMETER 16	″	″
TOTAL SIZE	6				

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 40	2	00 - 7F	VARIATION TYPE MSB	Refer to the Effect Type List	05 (=DELAY L,C,R)
		00 - 7F	VARIATION TYPE LSB	00 : basic type	00
42	2	00 - 7F	VARIATION PARAMETER 1 MSB	Refer to the Effect Parameter List	depends on variation type
		00 - 7F	VARIATION PARAMETER 1 LSB	″	″
44	2	00 - 7F	VARIATION PARAMETER 2 MSB	″	″
		00 - 7F	VARIATION PARAMETER 2 LSB	″	″
46	2	00 - 7F	VARIATION PARAMETER 3 MSB	″	″
		00 - 7F	VARIATION PARAMETER 3 LSB	″	″
48	2	00 - 7F	VARIATION PARAMETER 4 MSB	″	″
		00 - 7F	VARIATION PARAMETER 4 LSB	″	″
4A	2	00 - 7F	VARIATION PARAMETER 5 MSB	″	″
		00 - 7F	VARIATION PARAMETER 5 LSB	″	″
4C	2	00 - 7F	VARIATION PARAMETER 6 MSB	″	″
		00 - 7F	VARIATION PARAMETER 6 LSB	″	″
4E	2	00 - 7F	VARIATION PARAMETER 7 MSB	″	″
		00 - 7F	VARIATION PARAMETER 7 LSB	″	″
50	2	00 - 7F	VARIATION PARAMETER 8 MSB	″	″
		00 - 7F	VARIATION PARAMETER 8 LSB	″	″
52	2	00 - 7F	VARIATION PARAMETER 9 MSB	″	″
		00 - 7F	VARIATION PARAMETER 9 LSB	″	″
54	2	00 - 7F	VARIATION PARAMETER 10 MSB	″	″
		00 - 7F	VARIATION PARAMETER 10 LSB	″	″
56	1	00 - 7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)	40
57	1	01 - 7F	VARIATION PAN	L63...C...R63 (1...64...127)	40
58	1	00 - 7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00
59	1	00 - 7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...64...127)	00
5A	1	00 - 01	VARIATION CONNECTION	0:INSERTION,1:SYSTEM	00

5B	1	00 - 0F, 7F	VARIATION PART	Part 1...16 = 0...15, OFF = 127	7F
5C	1	00 - 7F	MW VARIATION CONTROL DEPTH	-64 - +63	40
5D	1	00 - 7F	BEND VARIATION CONTROL DEPTH	-64 - +63	40
5E	1	00 - 7F	CAT VARIATION CONTROL DEPTH	-64 - +63	40
5F	1	00 - 7F	AC1 VARIATION CONTROL DEPTH	-64 - +63	40
60	1	00 - 7F	AC2 VARIATION CONTROL DEPTH	-64 - +63	40

TOTAL SIZE 21

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 70	1	00 - 7F	VARIATION PARAMETER 11	Refer to the Effect Parameter List	depends on variation type
71	1	00 - 7F	VARIATION PARAMETER 12	″	″
72	1	00 - 7F	VARIATION PARAMETER 13	″	″
73	1	00 - 7F	VARIATION PARAMETER 14	″	″
74	1	00 - 7F	VARIATION PARAMETER 15	″	″
75	1	00 - 7F	VARIATION PARAMETER 16	″	″

TOTAL SIZE 6

<Table 1-4>
MIDI Parameter Change table (MULTI PART) [XG]

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
08 nn 00	1	00 - 20	ELEMENT RESERVE	0 - 32	part10 = 00, other = 02
nn 01	1	00 - 7F	BANK SELECT MSB	0 - 127	part10 = 7F, other = 00
nn 02	1	00 - 7F	BANK SELECT LSB	0 - 127	00
nn 03	1	00 - 7F	PROGRAM NUMBER	1 - 128	00
nn 04	1	00 - 0F,7F	Rcv CHANNEL	1 - 16,OFF	part no.
nn 05	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	01
nn 06	1	00 - 02	SAME NOTE NUMBER KEY ON ASSIGN	0:SINGLE 1:MULTI 2:INST (for DRUM)	01
nn 07	1	00 - 03	PART MODE	0:NORMAL 1:DRUM 2 - 3:DRUMS1 - 2	00(Other Than Part10) 02(Part10)
nn 08	1	28 - 58	NOTE SHIFT	-24 - +24 [semitones]	40
nn 09	2	00 - FF	DETUNE	-12.8 - +12.7 [Hz]	08 00
nn 0A				1st bit3-0→bit7-4 2nd bit3-0→bit3-0	(80)
nn 0B	1	00 - 7F	VOLUME	0 - 127	64
nn 0C	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	40
nn 0D	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	40
nn 0E	1	00 - 7F	PAN	0:random,L63...C...R63 (1...64...127)	40
nn 0F	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	00
nn 10	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	7F
nn 11	1	00 - 7F	DRY LEVEL	0 - 127	7F
nn 12	1	00 - 7F	CHORUS SEND	0 - 127	00
nn 13	1	00 - 7F	REVERB SEND	0 - 127	28
nn 14	1	00 - 7F	VARIATION SEND	0 - 127	00
nn 15	1	00 - 7F	VIBRATO RATE	-64 - +63	40
nn 16	1	00 - 7F	VIBRATO DEPTH	-64 - +63	40(drum part ignores)
nn 17	1	00 - 7F	VIBRATO DELAY	-64 - +63	40(drum part ignores)
nn 18	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	40
nn 19	1	00 - 7F	FILTER RESONANCE	-64 - +63	40
nn 1A	1	00 - 7F	EG ATTACK TIME	-64 - +63	40
nn 1B	1	00 - 7F	EG DECAY TIME	-64 - +63	40
nn 1C	1	00 - 7F	EG RELEASE TIME	-64 - +63	40
nn 1D	1	28 - 58	MW PITCH CONTROL	-24 - +24 [semitones]	40
nn 1E	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450 [cent]	40
nn 1F	1	00 - 7F	MW AMPLITUDE CONTROL	-64 - +63	40
nn 20	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	0A
nn 21	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	00
nn 22	1	00 - 7F	MW LFO AMOD DEPTH	0 - 127	00
nn 23	1	28 - 58	BEND PITCH CONTROL	-24 - +24 [semitones]	42
nn 24	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450 [cent]	40
nn 25	1	00 - 7F	BEND AMPLITUDE CONTROL	-64 - +63	40
nn 26	1	00 - 7F	BEND LFO PMOD DEPTH	+100 - +100 [%]	40
nn 27	1	00 - 7F	BEND LFO FMOD DEPTH	+100 - +100 [%]	40
nn 28	1	00 - 7F	BEND LFO AMOD DEPTH	+100 - +100 [%]	40

TOTAL SIZE 29

Address (H)	Size (H	Data (H)	Parameter	Description	Default value(H)
nn 30	1	00 - 01	Rcv PITCH BEND	0:OFF, 1:ON	01
nn 31	1	00 - 01	Rcv CH AFTER TOUCH (CAT)	0:OFF, 1:ON	01
nn 32	1	00 - 01	Rcv PROGRAM CHANGE	0:OFF, 1:ON	01
nn 33	1	00 - 01	Rcv CONTROL CHANGE	0:OFF, 1:ON	01
nn 34	1	00 - 01	Rcv POLY AFTER TOUCH (PAT)	0:OFF, 1:ON	01
nn 35	1	00 - 01	Rcv NOTE MESSAGE	0:OFF, 1:ON	01
nn 36	1	00 - 01	Rcv RPN	0:OFF, 1:ON	01
nn 37	1	00 - 01	Rcv NRPN	0:OFF, 1:ON	XG=01, GM=00
nn 38	1	00 - 01	Rcv MODULATION	0:OFF, 1:ON	01
nn 39	1	00 - 01	Rcv VOLUME	0:OFF, 1:ON	01
nn 3A	1	00 - 01	Rcv PAN	0:OFF, 1:ON	01
nn 3B	1	00 - 01	Rcv EXPRESSION	0:OFF, 1:ON	01
nn 3C	1	00 - 01	Rcv HOLD1	0:OFF, 1:ON	01
nn 3D	1	00 - 01	Rcv PORTAMENTO	0:OFF, 1:ON	01
nn 3E	1	00 - 01	Rcv SOSTENUTO	0:OFF, 1:ON	01
nn 3F	1	00 - 01	Rcv SOFT PEDAL	0:OFF, 1:ON	01
nn 40	1	00 - 01	Rcv BANK SELECT	0:OFF, 1:ON	XG=01, GM=00
nn 41	1	00 - 7F	SCALE TUNING C	-64 - +63 [cent]	40
nn 42	1	00 - 7F	SCALE TUNING C#	-64 - +63 [cent]	40
nn 43	1	00 - 7F	SCALE TUNING D	-64 - +63 [cent]	40
nn 44	1	00 - 7F	SCALE TUNING D#	-64 - +63 [cent]	40
nn 45	1	00 - 7F	SCALE TUNING E	-64 - +63 [cent]	40
nn 46	1	00 - 7F	SCALE TUNING F	-64 - +63 [cent]	40
nn 47	1	00 - 7F	SCALE TUNING F#	-64 - +63 [cent]	40
nn 48	1	00 - 7F	SCALE TUNING G	-64 - +63 [cent]	40
nn 49	1	00 - 7F	SCALE TUNING G#	-64 - +63 [cent]	40
nn 4A	1	00 - 7F	SCALE TUNING A	-64 - +63 [cent]	40
nn 4B	1	00 - 7F	SCALE TUNING A#	-64 - +63 [cent]	40
nn 4C	1	00 - 7F	SCALE TUNING B	-64 - +63 [cent]	40
nn 4D	1	28 - 58	CAT PITCH CONTROL	-24 - +24 [semitones]	40
nn 4E	1	00 - 7F	CAT FILTER CONTROL	-9600 - +9450 [cent]	40
nn 4F	1	00 - 7F	CAT AMPLITUDE CONTROL	-64 - +63	40
nn 50	1	00 - 7F	CAT LFO PMOD DEPTH	0 - 127	00
nn 51	1	00 - 7F	CAT LFO FMOD EPTH	0 - 127	00
nn 52	1	00 - 7F	CAT LFO AMOD DEPTH	0 - 127	00
nn 53	1	28 - 58	PAT PITCH CONTROL	-24 - +24 [semitones]	40
nn 54	1	00 - 7F	PAT FILTER CONTROL	-9600 - +9450 [cent]	40
nn 55	1	00 - 7F	PAT AMPLITUDE CONTROL	-64 - +63	40
nn 56	1	00 - 7F	PAT LFO PMOD DEPTH	0 - 127	00
nn 57	1	00 - 7F	PAT LFO FMOD DEPTH	0 - 127	00
nn 58	1	00 - 7F	PAT LFO AMOD DEPTH	0 - 127	00
nn 59	1	00 - 5F	AC1 CONTROLLER NUMBER	0 - 95	10
nn 5A	1	28 - 58	AC1 PITCH CONTROL	-24 - +24 [semitones]	40
nn 5B	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450 [cent]	40
nn 5C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-64 - +63	40
nn 5D	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	00
nn 5E	1	00 - 7F	AC1 LFO FMOD DEPTH	0 - 127	00
nn 5F	1	00 - 7F	AC1 LFO AMOD DEPTH	0 - 127	00
nn 60	1	00 - 5F	AC2 CONTROLLER NUMBER	0 - 95	11
nn 61	1	28 - 58	AC2 PITCH CONTROL	-24 - +24 [semitones]	40
nn 62	1	00 - 7F	AC2 FILTER CONTROL	-9600 - +9450 [cent]	40
nn 63	1	00 - 7F	AC2 AMPLITUDE CONTROL	-64 - +63	40
nn 64	1	00 - 7F	AC2 LFO PMOD DEPTH	0 - 127	00
nn 65	1	00 - 7F	AC2 LFO FMOD DEPTH	0 - 127	00
nn 66	1	00 - 7F	AC2 LFO AMOD DEPTH	0 - 127	00
nn 67	1	00 - 01	PORTAMENTO SWITCH	0:OFF, 1:ON	00
nn 68	1	00 - 7F	PORTAMENTO TIME	0 - 127	00
nn 69	1	00 - 7F	PITCH EG INITIAL LEVEL-64 - +63	40	
nn 6A	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63	40
nn 6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63	40
nn 6C	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63	40
nn 6D	1	01 - 7F	VELOCITY LIMIT LOW	1 - 127	01
nn 6E	1	01 - 7F	VELOCITY LIMIT HIGH	1 - 127	7F

TOTAL SIZE 3F

nn = PART NUMBER (0 : Part 1, 1 : Part 2, 2 : Part 3, ... , 15 : Part 16)
In the case of the DRUM PART, there will be no effect for the following parameters.

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

<Table 1-5>
MIDI Parameter Change table (DRUM SETUP) [XG]

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

TOTAL SIZE 10

[Note] n : Drum Setup number (0, 1)
rr : note number (0D - 5B)
When XG system on or GM mode on messages are received, all Drum Setup parameters are initialized.
The Drum Setup Reset message can be used to initialize each Drum Setup parameter.
Selecting a Drum Set will cause the Drum Setup parameter values to be initialized.

<Table 2-1>
S-VA System Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 00 00	4	0000 - 07FF	MASTER TUNE	-102.4 - +102.3[cent] 1st bit3 - 0→bit15 - 12 2nd bit3 - 0→bit11 - 8 3rd bit3 - 0→bit7 - 4 4th bit3 - 0→bit3 - 0	00 04 00 00
04	1	00 - 7F	MASTER VOLUME	0 - 127	7F
05	1	00 - 7F	MASTER ATTENEUTOR	0 - 127	00
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
07	1		NOT USED		
08	1		″		
09	1		″		
0A	1		″		
0B	1	00 - 01	BREATH CONTROL NUMBER	BC, EXPRESSION	00
0C	1	30 - 50	BREATH CONTROL CURVE	-16 - +16	40
0D	1	00 - 01	WX LIP LOCK	OFF/ON	00
0E	1	00 - 01	BREATH SET LOCK	OFF/ON	00
OF	1	00 - 01	WX LIP	NORMAL, EXPAND	00
10	1	00 - 02	BREATH MODE	BC/WX, VELOCITY, TOUCH EG	00
11	1	00 - 7F	VELOCITY DEPTH	0 - 127	30
12	1	00 - 7F	VELOCITY OFFSET	0 - 127	50
13	1	00 - 7F	TOUCH EG TIME	0 - 127	2A
14	1	00 - 7F	AT LOW DEPTH	0 - 127	1B
15	1	00 - 7F	AT LOW OFFSET	0 - 127	50
16	1	00 - 7F	AT HIGH DEPTH	0 - 127	25
17	1	00 - 7F	AT HIGH OFFSET	0 - 127	65

TOTAL SIZE 18

<Table 2-2>
S-VA Current Voice/Common Misc Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
10 00 00	1	20 - 7F	VOICE NAME#1	32 - 127(ASCII)	
01	1	20 - 7F	VOICE NAME#2	32 - 127(ASCII)	
02	1	20 - 7F	VOICE NAME#3	32 - 127(ASCII)	
03	1	20 - 7F	VOICE NAME#4	32 - 127(ASCII)	
04	1	20 - 7F	VOICE NAME#5	32 - 127(ASCII)	
05	1	20 - 7F	VOICE NAME#6	32 - 127(ASCII)	
06	1	20 - 7F	VOICE NAME#7	32 - 127(ASCII)	
07	1	20 - 7F	VOICE NAME#8	32 - 127(ASCII)	
08	1		NOT USED		
09	1	00 - 7F	VOICE LEVEL	0 - 127	
0A	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST	
0B	1	00 00 - 1F 1F	POLY EXPAND	off...32>32	
0D	1	00 -01	PORTAMENTO MODE	FULL TIME, FINGERED	
0E	1		NOT USED		

TOTAL SIZE 0F

<Table 2-3>
S-VA Part Parameter

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

TOTAL SIZE 06

<Table 2-4>
S-VA Current Voice/Element Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
20 00 00	1	20 - 7F	ELEMENT NAME #1	32-127(ASCII)	
00 01	1	20 - 7F	ELEMENT NAME #2	32-127(ASCII)	
00 02	1	20 - 7F	ELEMENT NAME #3	32-127(ASCII)	
00 03	1	20 - 7F	ELEMENT NAME #4	32-127(ASCII)	
00 04	1	20 - 7F	ELEMENT NAME #5	32-127(ASCII)	
00 05	1	20 - 7F	ELEMENT NAME #6	32-127(ASCII)	
00 06	1	20 - 7F	ELEMENT NAME #7	32-127(ASCII)	
00 07	1	20 - 7F	ELEMENT NAME #8	32-127(ASCII)	
00 08	1	20 - 7F	ELEMENT NAME #9	32-127(ASCII)	
00 09	1	20 - 7F	ELEMENT NAME #10	32-127(ASCII)	
00 0A	1	00 - 01	EXPRESSION MODE	BC,VOLUME	
00 0B	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 0C	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 0E	1	70 - 10	CURVE	-16 - +16	
00 0F	1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 10	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 12	1	70 - 10	CURVE	-16 - +16	
00 13	1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 14	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 16	1	70 - 10	CURVE	-16 - +16	
00 17	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 18	2	01 01 - 00 7F	UPPER DEPTH	-127 - +127	
00 1A	2	01 01 - 00 7F	LOWER DEPTH	-127 - +127	
00 1C	1	00 - 01	MODE	CENTER BASE, MINIMUM BASE	
00 1D	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 1E	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 20	1	70 - 10	CURVE	-16 - +16	
00 21	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 22	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 24	1	70 - 10	CURVE	-16 - +16	
00 25	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 26	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 28	1	70 - 10	CURVE	-16 - +16	
00 29	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 2A	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 2C	1	70 - 10	CURVE	-16 - +16	
00 2D	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 2E	2	01 01 - 00 7F	DEPTH	-127 - +127	
00 30	1	70 - 10	CURVE	-16 - +16	
00 31	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	

00 32	2	01 01 - 00 7F	DEPTH	-127 - +127
00 34	1	70 - 10	CURVE	-16 - +16
00 35	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB
00 36	2	01 01 - 00 7F	DEPTH	-127 - +127
00 38	1	70 - 10	CURVE	-16 - +16
00 39	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB
00 3A	2	01 01 - 00 7F	DEPTH	-127 - +127
00 3C	1	70 - 10	CURVE	-16 - +16
00 3D			reserve	
: :			reserve	
0A 6A			reserve	

TOTAL SIZE 56B

YAMAHA [PCI Sound Card]] Date:10-Apr-1998
MODEL WF-192XG MIDI Implementation Chart Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	×	1 - 16	
Channel	Changed	×	1 - 16	
Mode	Default	×	3	
	Messages	×	3,4 (m = 1) *2	
	Altered	×	×	
Note		×	0 - 127	
Number	: True voice	********	0 - 127	
Velocity	Note on		○ 9nH, v=1-127	
	Note off	×	×	
After	Key's	×	○ *1 *4	
Touch	Ch's	×	○ *1	
Pitch Bender		×	○ 0-24 semi *1	
Control Change	0, 32	×	○ *1	Bank select
	1,5,7,10,11	×	○ *1	
	2,4,13	×	○ *1 *5	
	6,38	×	○	Data Entry
	64-67	×	○ *1	
	71-74	×	○	Sound Controller
	84	×	○ *4	Portamento Cntrl
	91,93,94	×	○	Effect Depth
	96-97	×	○ *1	RPN Inc, Dec
	98-99	×	○ *1	NRPN LSB, MSB
	100-101	×	○ *1	RPN LSB, MSB
	120	×	○	All Sound Off
	121	×	○	Reset All Cntrls
Prog		×	○ 0-127	
Change	: True #	********		
System Exclusive		×	○ *3	
System	: Song Pos.	×	×	
Common	: Song Sel.	×	×	
	: Tune	×	×	
System	: Clock	×	×	
Real Time	: Commands	×	×	
	: Local On/Off	×	×	
Aux	: All Notes Off	×	○ (123-127)	
Messages	: Active Sense	×	×	
	: Reset	×	×	

Notes :
*1 ; receive if switch is on.
*2 ; m is always treated as "1" regardless of its value.
*3 ; transmit/receive if exclusive switch is on.
*4 ; not receice in case of VL Voice
*5 ; not receice in case of XG(AWM2) Voice

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO ○ : Yes
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO × : No