VB SYSEX Decoder for Roland Sound Canvas and Yamaha XG Modules

Version 2.2

VBSYX decodes **RAP-10, SC-55, SC-155 etc** System Exclusive (SYSEX) messages as well as those for the **SC-88** and **M-GS64**.

VBSYX also decodes Yamaha **XG** SYSEX messages for all **XG** sound cards/modules.

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It is recommended that you read all this help before starting to use the product. However, if you just want to use the program straight away, you **MUST** read the Limitations section first.

Installation Instructions:

(1)   Unzip this file and run the SETUP.EXE program.

(2)   The program will copy CMDIALOG.VBX, GRID.VBX, SPIN.VBX, THREED.VBX, MIDIVBX.VBX **and** CALLBACK.DLL to your x:\WINDOWS\SYSTEM directory if you don't already have a copy of these files.

Note: You may have older versions of these files. VBSYX will **not** work with them. If the program won't load *or* does strange things during operation, use the VBXs that came with this software.

It *might* be possible to set the Working Directory for the Program Item to be the same as the directory where all files that came with this program are stored. This should work but it is not foolproof as Windows may have loaded the other VBXs for use by other Windows programs. Play safe: copy the files. Keep the old VBXs in case something else stops working.

(3)   Use PKUNZIP or whatever to unzip the SYX.ZIP file to a suitable directory eg C:\VBSYX\SYSEX. This file contains example SYSEX files for you to use.

(4)   Start the program.

If you don't have a copy of VBRUN300.DLL (the Visual Basic 3 DLL runtime library) in your x:\WINDOWS\SYSTEM directory, the SETUP program won't run. Get hold of a copy, download a copy or request one via email from the VBSYX Home Page.

Please report any bugs. If possible, send a MIME attachment of the file it can't decode properly via email. This will make diagnostic work much easier. UUENCODED attachments will also be accepted. Please send any suggestions for improvement via email as well.

Copyright and Registration

This Software is Copyright © M. R. Le Voi Systems Consultants (1996,1997). Terms such as *Roland, Sound Canvas, Yamaha, XG* etc are copyright of their respective owners.

NB This software is Shareware. If you want to register, $24.95 is all it will cost you. American or Canadian Dollars if you live overseas. Australian Dollars, if you live in Australia. Please refer to the forms that came with this software. All registered users receive all upgrades for free.

Use **ORDER.FRM** or **ORDER.USA**, whichever is more convenient. Read **REGISTER.TXT** for more information and for how to register via the **Compuserve SWREG** process.

Mail all suggestions, compliments, requests for information on registering etc to:

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or write to me at the address below if you do *not* have an email address:

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February, 1996 to January, 1997
Latest version always available at: http://modemss.brisnet.org.au/~mlevoi

Acknowledgements and Limitations

I am indebted to Gary Agnew and Charl Engela of the Sound Canvas Users Group for their suggestions throughout this project. This program would not be as useful as it is without their comments. I am also indebted to Lee Jackson at Apogee for his invaluable suggestions and marketing experience.

As usual, the standard disclaimers apply. Anything you lose or have corrupted on your machine is your problem, not mine. Use this software at your own risk.

Known Limitations:

It is assumed that you have certain fonts installed on your system. If you have removed fonts from your Windows environment, this program may not load or may function incorrectly. Edit VBSYX.INI if this is a problem for you.

VBSYX finds Roland GS and Yamaha XG SYSEX messages in *Cakewalk* .WRK files and *Power Tracks Pro* .SEQ files. As these file formats do not have a documented interface, known patterns have to be searched for. Thus, SYSEX strings for Korg etc will be ignored.

Change History

In **Version 1.1**, code was added to decode **SC-88** SYSEX data. This also applies to the **M-GS64**, which uses the same command set. Thanks are due to Roland Corporation, Australia and Dean Brewer for providing the necessary documentation.

In **Version 1.2**, the interface was redesigned to add a toolbar.

In **Version 1.3**, support was added to decode SC-55 Bulk Patch Dumps, Global Bulk Dumps and Bulk Drum Dumps. SC-88 bulk dumps decode as well. However, certain SC-88 specific bytes *may* not be decoded. Everything else for a **SC-55, SC-88** etc should decode perfectly.

In **Version 1.4**, support was added for **RAP-10** SYSEX data. Also added was the option to omit the show/extract of default SYSEX messages. Finally, the option to allow backward scrolling in MID/WRK files was added by popular request as well as the ability to Go To a message by clicking in the Summary View.

In **Version 1.5**, two extra utility programs were bundled in: ***XG/GS MIDI Jukebox*** and ***GS/XG Midi Reset***.

In **Version 2.1**, Yamaha **XG** support was added. Thanks are due to Yamaha USA for providing the necessary documentation. Also added was **Version 2.1** of the ***XG/GS MIDI Jukebox*** (including the **Random Patch Generator**).

In **Version 2.2**, automatic **GS** to **XG** SYSEX conversion was added.

See Also: <u>Bugs</u>

Bugs

Some of these are serious. They are not caused by VBSYX.

(a)   **Play MID files**. Playing certain MID files has been known to lock Windows 3.11 completely. On some machines, this happens when the file contains *lots* of SYSEX data eg a complete dump generated by SCEDIT. Also, MID files containing SC-88 effects lock certain machines as well.

    Cause: This appears to be a bug in Microsoft's code. It has not been possible to reproduce this problem under Windows 95.

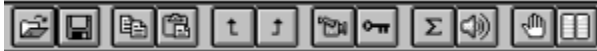   Solution: Don't play the MID file in question

(b)   **GPF in KRNL386.EXE** under Windows 95 using File Open.

    Cause: 3rd party product called Instant File Access in use.

    Solution: Don't use IFA.

See Also: __Limitations__

The Buttons:

| Open | Same as **File, Open...** Shortcut: **Ctrl-O** |
| Save | Same as **File, Save** |

| Extract | Same as **Edit, Extract SYSEX**. Shortcut: **Ctrl-C** |
| Paste | Same as **Edit, Paste SYSEX**. Shortcut: **Ctrl-V** |

| Back | Same as **Edit, Back**. Shortcut: **Ctrl-B** |
| More | Same as **Edit, More**. Shortcut: **Ctrl-M** |

Show All   Same as **Summary, Show All**. Shortcut: **Ctrl-A**
Mass Extract   Same as **Summary, Mass Extract**. Shortcut: **Ctrl-T**

Summary   Same as **Summary, Show Summary**. Shortcut: **Ctrl-S**
Play   Same as **Midi, Play/Stop MID File**. Shortcut: **Ctrl-P**

Change   Same as **Edit, Change SYSEX Byte.** Shortcut: **Ctrl-E**
Edit   Same as **Edit, Edit SYSEX Bytes**

The Options:

The options in this program should be self explanatory. However, here is some help if it's not obvious what to do.

Contents

> **File**
> **Edit**
> **Summary**
> **Dump**
> **MIDI**
> **Help**

Don't forget to read the <u>Examples</u> section for more hints and tips.

They are presented in sequence by using the arrows (>>) at the top of the screen.

See Also: **Buttons**

File

Open...   Shortcut: **Ctrl-O**

Opens .SYX, .MID, .WRK, .SEQ or .SYG files and finds SYSEX data in *any* of them. **Clicking** on the main form will perform this action if there is nothing better to do. Opening an EXE file will set that to be your preferred Midi Sequencer. See <u>Midi, Midi Sequencer</u>.

Save

Only enabled when the input file was a .SYX file. This allows ALL of a SYX file to be written to disk after any of it has been changed by the Change button.

Save As...

Writes the internal SYSEX buffer, created by repeated use of the Extract Button, to a nominated .SYX file.

Exit

Exits the program.

See Also: **Examples of Use**

Edit (1)

More   Shortcut: **Ctrl-M**

When not disabled, can be used to "scroll" forward through the SYSEX data in the file.
Clicking on the main form will perform this action if there is nothing better to do.

Back   Shortcut: **Ctrl-B**

When not disabled, allows you to "scroll" backward through .SYX files, .MID, .WRK and .SEQ
files.

You can also "scroll" backward and forward through a MID/WRK files SYSEX data as follows:
Open a MID/WRK file, then do a **Summary, Mass Extract**. This will extract all SYSEX data to
the buffer, rename the active file to VBSYSEXT.SYX and then you can browse backward and
forward through it.

Change   Shortcut: **Ctrl-E**

When not disabled, allows you to change the latest parameter setting being displayed. Note:
to change parameters that require more than one byte to be changed, use **Edit, Edit
SYSEX**.

See Also: **Examples of Use**

Edit (2)

Extract SYSEX   Shortcut: **Ctrl-C**

Extract the SYSEX shown in the detail display to an internal buffer. Every time you hit **Extract**, another copy is taken. This allows you to "browse" through a MID/WRK file, extracting SYSEX messages as you go. The buffer is reset every time a new file is opened.

All messages are appended to the internal buffer. Select **File, Save As** when you want to write the SYSEX data out. You can confirm that an extract has been taken as the **Extract** button will be *greyed out* after each extract has been made.

Extract also copies the **current** SYSEX data to the Windows **Clipboard**. For example: you can go into *Cakewalk*, SYSX, Edit Bytes mode and Ctrl-V the message straight in. Then, you can **send** it to your sound module to see whether you want to keep it or change the bytes some more.

If **Edit, Auto Send Extract?** is checked, this item is *not greyed out* after each extract. This allows you to send a SYSEX message over and over again. However, the resulting *cumulative* extract may be less than useful to you.

Paste SYSEX   Shortcut: **Ctrl-V**

Pastes the current clipboard to the buffer. The buffer can then be "Save As"ed or sent to your sound module via **MIDI, Send Latest Extract**.

It is your responsibility to ensure that the contents of the clipboard are sensible. For example: using Ctrl-C under *Cakewalk*, SYSX, Edit Bytes works correctly.

See Also: <u>**Examples of Use**</u>

Edit (3)

Edit SYSEX Bytes

Allows you to edit SYSEX bytes AS IS. There is **no** error checking and **no** help. This option is for those who know what they are doing. However, if you get it wrong, the subsequent decode will tell you where your error is. Also, use this option for editing Patch Name and/or Display messages.

Edit SYSEX Message

This is an advanced version of **Edit SYSEX Bytes** above. This allows you to edit **ALL** SYSEX bytes   including Manufacturers ID, Device ID etc. There is **no** error checking and **no** help. See above for standard disclaimer. Open any .SYX message to get a template to copy. Checksums will be calculated for you if required.

Auto Send Extract?

This is a check item. If checked, VBSYX will send the latest SYSEX message which has been extracted to the *Default Output MIDI Port*. The default is checked. If this is off, you will have to use **Midi, Send Latest Extract** to send the SYSEX message to your sound module.

Convert GS to XG   Shortcut: **Ctrl-G**

This converts a **GS** SYSEX message to the equivalent **XG** message. Converted messages are placed on the Windows **Clipboard** for pasting into other programs or for pasting back into VBSYX via the Ctrl-V command.

Note that some parameters are GS specific and cannot be converted. Note also that a one-for-one conversion of, say, Reverb parameters may *not* produce exactly the same effect. GS Bulk Dumps are not supported yet.

Auto Convert GS to XG?

This is a check item. If checked, VBSYX will automatically convert all **GS** messages to **XG** format when the **Summary, Mass Extract** option (**Ctrl-T**) is selected.

See Also: **Examples of Use**

Summary (1)

Show Summary   Shortcut: **Ctrl-S**

Show the Summary Window. This is a display of all the SYSEX messages as they are decoded. The **Go to** button allows you to go direct to any SYSEX message that is shown in the Summary Window. Double clicking **on or slightly to the right** of the message number accomplishes the same affect.

The **Save** button allows you to save the results of the Summary Window to a pair of files. The file extensions are *SYT/SYZ* for **.SYX** files, *MIT/MIZ* for **.MID** files and *WRT/WRZ* for **.WRK or .SEQ** files. This allows you to **Load** the files in a later VBSYX session so that the summary information is immediately available to you. It is suggested that you do a **Save** immediately after loading a file and doing a **Ctrl-A** (see below).

Once the **Load** or **Save** button has been pressed, no more messages are written to the Summary Window until a new file is opened. If the Summary Window is preloaded automatically, the same applies. See **Summary, Open Summary Info?** below.

Hide Summary   Shortcut: **Ctrl-H**

Hide the summary window.

See also: <u>Limitations</u>

Summary (2)

Show All   Shortcut: **Ctrl-A**

Like hitting the More button without stopping. Does 1500 "More"s by default and then stops. Can be used until the end of the file has been reached. No more messages will be written to the Summary Window after this action has completed until a new file is opened.

Do a **Ctrl-A *again*** to terminate the operation. You may only want to show *nnn* messages. See Examples for some reasons why you would want to do this.

Two options are available. To speed up the process, you can elect to omit the decode of dot display messages. This option is chosen by selecting the **check box** in the counter dialog box. See **Dump, Omit Default Messages?** for the other option.

Mass Extract   Shortcut: **Ctrl-T**

Normally used **immediately** after loading a MID/WRK file. It reads the entire MID/WRK file and loads the SYSEX messages into a buffer. Finally it renames the active buffer to VBSYSEXT.SYX. It is up to **you** to SAVE or SAVE AS. Do a **Ctrl-T *again*** to terminate the extraction. See Examples for some reasons why you would want to extract less messages.

Two options are available. To speed up the process, you can elect to omit the extract of all display messages. This option is chosen by selecting the **check box** in the counter dialog box. See **Dump, Omit Default Messages?** for the other option.

See also: Limitations

Summary (3)

Copy Summary

This copies the text in the Summary Window to the clipboard. Don't try to do an **Edit, Paste** immediately after doing this. The clipboard doesn't contain SYSEX data anymore.

Print Summary

This prints the Summary Window on your printer

Printer Font

Choose your own font if you don't like the default. WARNING: This affects the Summary Window, too, so you can see what the printout will look like. The default is set in the VBSYX.INI file.

Note: Any font changes are not remembered after the program has been closed. Edit the INI file for permanent changes.

Open Summary Info?

This is a check item. If checked, VBSYX will look for a *SYT/SYZ, MIT/MIZ or WRT/WRZ* pair of files to open. This will preload the Summary Window with the information saved from a previous session. See <u>Summary, Show Summary</u> for more information.

Dump

Show Bulk Dump Info   Shortcut: **Ctrl-D**

Use this option to decode Bulk Dumps (when enabled). This applies to patch bulk dumps, drum bulk dumps and global bulk dumps. Hit **Esc** or **Enter** or **Click** on the detail display to exit this detail display.

When **Auto Decode** mode is on (see below), **Enter** will display the next message. **Esc** will stop the decode of all messages. **Clicking** on the main form will also decode a bulk dump if possible.

Extract Bulk Dump Info   Shortcut: **Ctrl-I**

Use this option to extract Global Bulk Dumps **(when enabled)**. A Global Bulk Dump consists of 30 SYSEX packets in sequence. This option is **only enabled** when **Bulk Dump Parameters - Packet 1** is being viewed. When selected, the 30 SYSEX packets are extracted (less headers/trailers) and can be decoded with Ctrl-D (see above). The resultant extract is renamed to VBSYXEXT.SYG and can be saved as such or as another **.SYG** file (see below).

Clicking on the main form will perform this action if possible.

Edit Patch Dump

Use this option to edit patch dumps. This option is used in 2 different ways. If you are decoding a **.SYX** file, this option can be used to change the part/channel for the patch dump. This allows you to use an already created patch on a different part/channel from the one it was created for.

The second use of this option is for extracting patch dumps from **.SYG** files (see above). **First**, use Ctrl-D to find/look at the patch you want to extract. **Second**, use this option, choose a new part/channel for the patch and hit Enter. The last patch you looked at will be extracted as a patch dump and you will be able to save it as a **.SYX** file *after* doing a **Ctrl-C** to extract the data to the clipboard. Alternatively, **Ctrl-V** the extracted data into your favourite sequencer instead of saving it as a .SYX file.

Note that **Auto Decode Global Dump** (see below) must be *OFF* for this feature to work.

Decode Complete Patch Dump?

This is a check item. The default is only to decode Sound Canvas parameters that have changed. Check this option if you want to see all dump bytes decoded.

Auto Decode Patch Dump?

This is a check item. If checked, patch bulk dumps will be decoded when encountered. The default is unchecked. If this is off, you will have to use Ctrl-D to decode them manually.

Auto Decode Global Dump?

This is a check item. If checked, global bulk dumps will be decoded in sequence when encountered. The default is unchecked. If this is off, you will have to use Ctrl-D to decode them manually. See **Show Bulk Dump Info** above for extra information.

Omit Default Messages?

This is a check item. If checked, **Summary, Show All** will *not* copy decoded default messages to the Summary window. See **Summary, Show All** for extra information.

In addition, **Summary, Mass Extract** will *not* extract default messages. This can be very useful in extracting useful SYSEX messages for use in your own files.

Finally, if this option is checked, detail SYSEX message bytes will not be displayed. This speeds up scrolling through SYSEX data.

See also: **Limitations**

NB. The Dump options will only be available to registered users

MIDI (1)

Send Latest Extract   Shortcut: **Ctrl-X**

This sends the last SYSEX message you did an **Extract** on to the nominated SYSEX port.

Send SYX File   Shortcut: **Ctrl-Y**

Sends the whole of the SYX file to the nominated SYSEX port.

Play/Stop MID File   Shortcut: **Ctrl-P**

Play the MID file via MIDI MAPPER or **any other MIDI port**. Choose this option again to **Stop** a MID file playing.

Note: VBSYX does not play WRK or other proprietary formats as this program uses the official Microsoft MCI interface.

WARNING: Playing certain MID files has been known to lock Windows 3.1 completely. On some machines, this happens when the file contains LOTS of SYSEX data eg a complete dump generated by SCEDIT. Also, MID files containing SC-88 effects lock certain machines as well. This problem appears to have been solved by Microsoft under Windows 95.

See also: **Limitations**

MIDI (2)

GS/XG Reset

Allows you to do a GS and/or XG Reset when you are just playing a MID file.

MS Midi Mapper

Invokes the Microsoft Midi Mapper. This function is available under Windows 3.11 only. It is not available for Windows 95 and does not work under Windows NT.

XG/GS MIDI Jukebox

Invokes the ***XG/GS MIDI Jukebox*** to play the current MID file. This allows more control over playing than just Ctrl-P (Start/Stop). **Warning:** Close XG/GS MIDI Jukebox before selecting this item again. If you do not, you will get another instance of the Jukebox.This may not be what you want and you may run out of memory.

Midi Sequencer

Invokes your favourite Midi Sequencer to play/edit the current midi file. Open a **.EXE** file under **File, Open** to change the default of MS Media Player. **Warning:** Close your sequencer before selecting this item again. If you do not, you will get another instance of your sequencer program. This may not be what you want and you may run out of memory.

Change MIDI Port

This allows you specify which port will be opened to play your MID file via **Ctrl-P**. Thus, you are no longer at the mercy of Midi Mapper or its Windows 95 equivalent.

Change SYSEX Port

This allows you specify which port will be used to send SYSEX messages to your Sound Canvas or XG sound module via such options as **Ctrl-X** *and* **Ctrl-Y**.

See also: <u>Limitations</u>

Help

Contents

Invites you to read this document.

Select Font

Use if you want. It was built for user testing. However, if the program doesn't work on your machine, try this before calling. The default is set in the INI file.

Note: Any font changes are not remembered after the program has been closed. Edit the INI file for permanent changes.

Register

This allows you to register the program. If you register, you will be sent your *personalised* registration number. This will allow you to use all the **Dump Menu** items as well as allowing you to use the **Go To** function.

About

Displays program version and current registration details.

Examples (1)

(1)   Set Part 6 to OFF in Cakewalk WRK file

Open PART1OFF.SYX and **Edit, Edit SYSEX Message**, changing byte 2 from 11 to 16. This is not as hard as it may seem.

Now **Extract** the data to the clipboard, switch to *Cakewalk*, **SYSX, Edit Bytes** and **Ctrl-V** the data in.

To copy data back from *Cakewalk*, highlight the data bytes, **Ctrl-C**, switch to VBSYX, **Edit, Paste SYSEX**.

Use this technique for anything. See <u>Sample SYX Files</u> for supplied SYX files you can copy.

See also: <u>**Sample SYX Files**</u>

Examples (2)

(2)   Extract 25,000 bytes from your favourite MID file

There is a limit on Mass Extract of 19,000 bytes. This should be enough for anybody. If you really want to do this then:

(a)   Open, Mass Extract, Save As BIG.SYX (or whatever). Make a note of the last message extracted (say, **nnn**).

(b)   Open, Show All (changing the number to be shown to **nnn**), Mass Extract from here on, Save as BIG.SYX, Reply No to dialog box. This will *append* the data to the original SYX file.

Try this out on DEMO0001.MID from Roland. Don't expect to be able to do anything with the extracted data. Those users without a plasma display should do a **Summary, Show All** on this file to see what they are missing out on.

See also: <u>Sample SYX Files</u>

Examples (3)

(3)   Extract messages 2 to 4 and 9 to 16

You have looked at a MID file and you want to extract selected messages only. In this example there are, say, 30 SYSEX messages in the MID file but you only want messages 2,3,4 and 9,10,11,12,13,14,15,16.

You use the same technique as the last one:

Open
More, **Extract**, More, **Extract**, More, **Extract**
More x 5
Mass Extract (Change the number of messages to extract to 8)
Save As.

See also: **Sample SYX Files**

Sample SYX Files

Here are some sample .SYX files used (a) for testing and (b) for you to display/edit and use in your sequences as required. They are supplied as **SYX.ZIP** in your installation package.

ALLGM.SYX	All valid GM SYSEX messages
ALLRAP10.SYX	All valid RAP-10 SYSEX messages
ALLSC55.SYX	All valid SC-55, SC-155 etc SYSEX messages
ALLSC88.SYX	All valid SC-88, M-GS64 SYSEX messages
GMSYSON.SYX	General Midi Reset
GSRESET.SYX	GS Reset
HALL1.SYX	Set Canvas Reverb to Hall 1. Use **Change** for any other effect you

want.

PART1OFF.SYX	Turn Part 1 OFF. See **PART1PAN.SYX** below.
PART1PAN.SYX	Set Part 1 to random pan. Use **Edit, Edit SYSEX** to choose another

Part.

PARTTONE.SYX	Set Part 1 Bank and Patch settings
SW60XG.SYX	SW60XG SYSEX messages
XGDRUM.SYX	XG Drum SYSEX messages
XGPART.SYX	XG Part SYSEX messages
XGRESET.SYX	XG Reset
XGSYSTEM.SYX	XG System SYSEX messages

Use the Change button to change individual values. Use the Edit, Edit SYSEX menu item to edit messages that contain multi-byte values. Use the Edit, Edit SYSEX menu item to edit messages to change Part 1 to any other part you want.

See also: **Examples of Use**