



Great White North Technologies

88 Edit

**System Exclusive Generator
For The Roland SC-88**

**By:
Rick Macmurchie**

Version 1.0

Copyright 1998 Great White North Technologies

SC-88, GS, and GS Logo are trademarks of Roland Corporation.
Other trademarks appearing in this manual or program are the property of
their license holders.

Email: rmac@islandnet.com
www: <http://www.islandnet.com/~rmac>

Great White North Technologies
1000 Fenn Avenue Victoria B.C. Canada V8Y 1P3

Contents

Introduction	1
About MIDI Drivers	1
General Information	2
File Menu	3
Edit Menu	3
System Parameters	
Display Settings Page	4
EQ Settings Page	5
Delay Effect Settings	6
Reverb Effect Settings	7
Chorus Effect Settings	8
Master Faders	9
	10
Part Parameters	
Keyboard	11
Patch	12
Part Settings 1	13
Part Settings 2	14
Part Settings 3	15
Part Settings 4	16
Drum Settings	17
MIDI Files	18
Web Addresses	19
Registering 88 Edit	19

88 Edit Introduction

88 Edit is a system exclusive message generator for the Roland Sound Canvas SC-88. It provides a convenient interface to the functions of the SC 88, and easy way to save the sound settings for use in your sequencer. **88 Edit** will also generate system exclusive messages compatible with older Roland GS Sound Canvas products.

Some of the features intended for the SC-88 are not supported by older GS modules and messages generated by **88 Edit** relating to these functions will be ignored. Some system exclusive messages that are supported by older GS modules may have a different range of valid values, or produce different sounding effects.

The manual for your sound module should be consulted for detailed descriptions of what effects the various controls produce, and if the controls are supported on your model.

About Windows MIDI drivers

Both Windows 3.1 and Windows 95/98 will only allow one program at a time to send information to a MIDI output port. This means that the first MIDI program to open the port can send to the MIDI device, but no other programs will be able to send to the MIDI device until the first program has closed. If you run a MIDI sequencer and **88 Edit** at the same time, start the sequencer first. **88 Edit** will run with out access to the MIDI port, however none of the MIDI commands will be sent to the sound module, and you will have to save the system exclusive messages and load them in the sequencer later.

There are several MIDI drivers available that allow a MPU-401 compatible MIDI port to be used by more than one program at one time. **P.G. Music** makes a very affordable replacement driver, and **12 Tone Systems** ships a replacement driver with *Cakewalk*. If you install one of these *multi-client* MPU drivers you will be able to run a sequencer and an editor at the same time. Regardless of the driver used, the Windows MIDI Mapper can only be opened by one program at a time.

Both the **P.G. Music** and the **12 Tone Systems** multi-client MPU drivers were designed for Windows 3.1, but they will work with many Windows 95 sound cards, and both have been tested with **88 Edit**. These drivers may not work with Windows 98, contact their developers for information about possible updates.

Another multi-client MIDI driver '**MultiMID**' is available from Hermann Seib, this should work with any Windows compatible MIDI interface, this driver also works with Windows 98

See the Web Addresses page for multi-client driver contact information.

If you are unable to get a multi-client MPU driver to work in your system, another option is to take advantage of the second MIDI input on the SC-88 by installing a second MIDI port on your computer. With two MIDI ports, your sequencer can send to one port, and **88 Edit** can send to the other port. In this configuration, **88 Edit** should be set to edit 'B' parts, and Sysex messages should be saved with the *A/B swap* option.

General Information

The file menu has commands to save settings as Sysex files and to reset the program controls.

The Reset Menu has a number of reset messages to initialize the SC-88 into its various operation modes.

The MIDI menu allows selection of the MIDI driver for output. The Default is the MIDI Mapper.

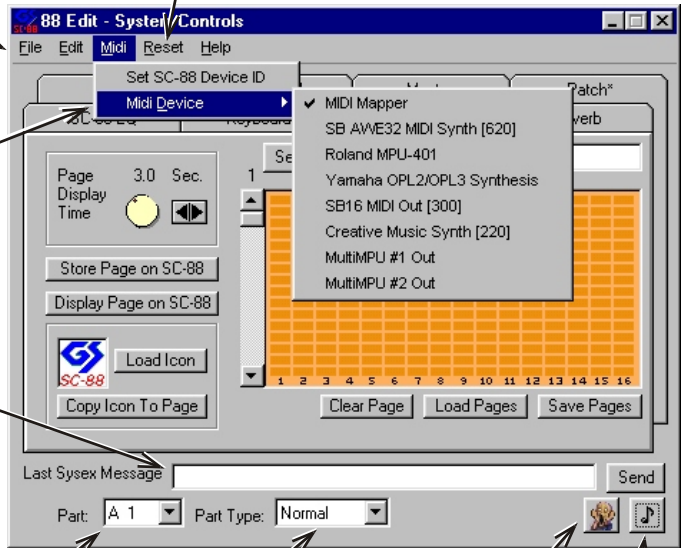
The last Sysex message sent to the MIDI port is displayed here. Messages can also be typed here directly.

Displays and sets the MIDI part that MIDI and Sysex messages will affect. Parts A1-A16 are the parts 1-16 on the input of the SC-88 to which your MIDI cable is connected. The B1-B16 are the other 16 parts. Normal MIDI messages can only be sent to 'A' port parts.

Displays and sets the selected part as a normal part, or one of the two drum parts. (Rhythm 1 & Rhythm 2)

Sends an All Notes Off message to MIDI channels A1 to A16.

Sends a sample note to the selected MIDI channel.



The keyboard sample note keys found on the Keyboard page remain active whenever possible on all pages. They don't work when the cursor is in a text box, or combo-box.

File And Edit Menus

Re-sends all system exclusive messages to the sound module.

Clears all the program settings to their defaults, but does not send any messages to the sound module.

Clears all the program settings to their defaults, and sends a Mode 1 reset message to the sound module.

Saves the contents of the 'Last Sysex Message' box as a Sysex file for loading into a sequencer.

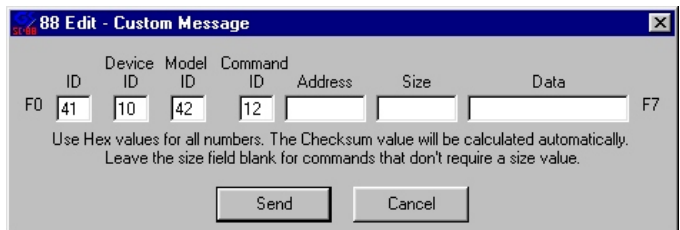
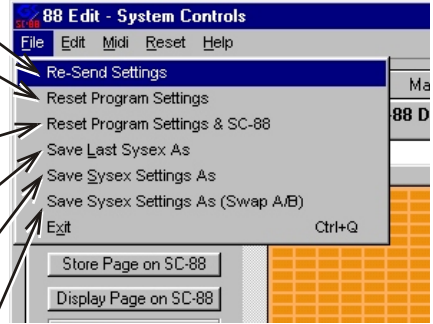
Saves all the program settings as a Sysex file for loading into a sequencer.

Swaps the port of all the program settings and saves them as a Sysex file for loading into a sequencer. Use this when settings made for a MIDI song playing on port 'B' will be loaded into a sequence playing on only one port.

Copies the contents of the 'Last Sysex Message' box to the clipboard. This data can then be pasted directly into the system exclusive message editor of many sequencers.

Copies all of the program settings to the clipboard. This data can then be pasted directly into the system exclusive message editor of many sequencers.

Displays the dialog below, allowing the entry of system exclusive messages not supported by **88 Edit**. The message will be formatted as a Roland exclusive message and sent to the MIDI port. The Roland checksum value will automatically be calculated for the message, but *no validation will be done* on the message before it is sent.



System Parameters

Controls on the System Controls pages that set *GS* system parameters affect sounds on all MIDI parts.

If the SC-88 is in Mode 1 (Single Module Mode) these settings affect both MIDI inputs, A and B.

In Mode 2, Double Module Mode, these settings affect only the parts 1-16 for the Input on which the messages are received.

88-Edit assumes that the SC-88 is in Mode 1, the settings of some controls will be ignored if the SC-88 is in Mode 2.

SC-88 Display

The SC-88 Display page allows setting and editing of text messages for display on the instrument name line, and bitmap pictures for display in the part level area. 10 bitmap pages can be stored in the SC-88 at any one time. Display commands will be ignored by sound modules that do not support them.

Sets the amount of time that a bitmap page will stay on the display after a display page command is sent.

Generates a sysex message for the current bitmap page and stores it on the SC-88.

Generates a display page message for the current page and sends it to the SC-88.

Loads an Icon, or bitmap picture. Only the top left 32 by 32 pixels will be used. Monochrome pictures work best.

Converts the displayed icon to a display page.

Generates a sysex text message and display displays it on the instrument name line.

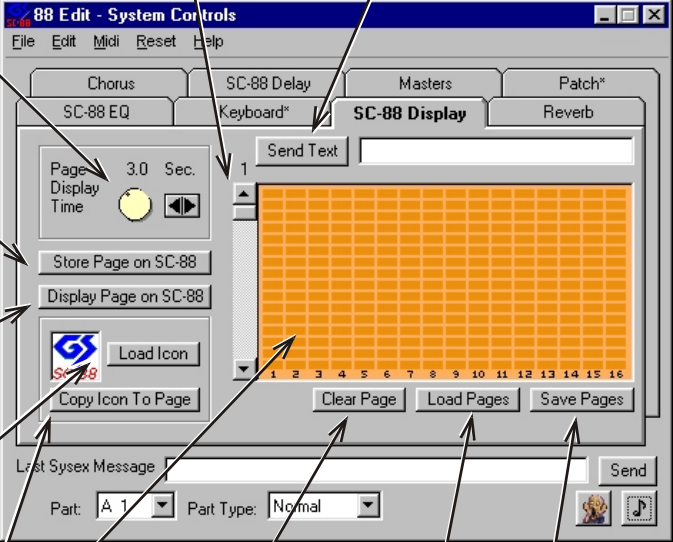
Selects bitmap page 1 - 10.

Click on a dot to turn it on or off.

Clears the current bitmap page.

Loads a set of 10 pages.

Saves a set of 10 pages.



Multiple display pages can be used to create animation on the display screen during playback from a sequencer. Send any needed pages at the beginning of the song, before playback starts, then use multiple display page messages (sent at appropriate times) later in the song to recall the pages.

Note: The last display page message received by the SC-88 will set a current page flag, and the SC-88 will automatically display any bitmap received on that page. If no display page messages have been received, Page 1 is the current page, and any bitmaps sent to Page 1 will be displayed immediately.

System Parameters

SC-88 EQ

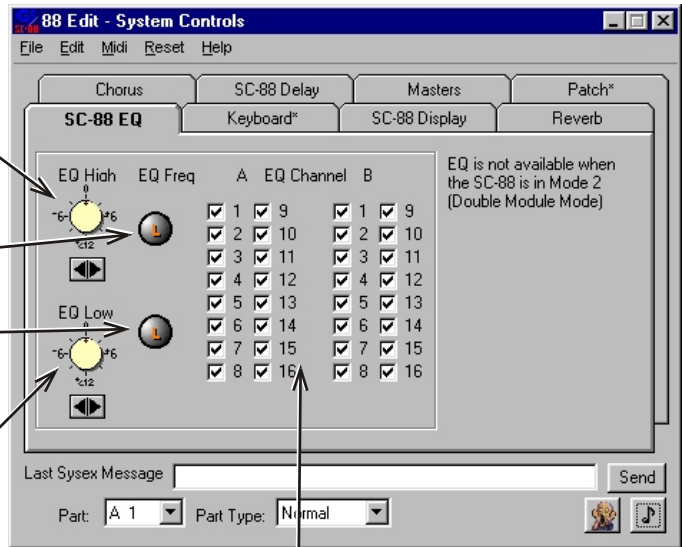
The SC-88 EQ page allows editing of SC-88 Equalizer Settings. If the SC-88 is in Mode 2 (double module mode) the equalizer is not available, and EQ commands will be ignored. *Equalizer commands will be ignored by sound modules that do not support them.*

Sets the high frequency gain of the equalizer from -12db to +12db

Toggles the equalizer high frequency between 3khz (L) and 6khz (H)

Toggles the equalizer high frequency between 200hz (L) and 400hz (H)

Sets the low frequency gain of the equalizer from -12db to +12db



These check-boxes allow the Equalizer to be applied, or bypassed on a part by part basis.

Note: If the EQ Lock setting on the SC-88 is set On, a GS Reset message will not reset the equalizer. A Mode 1 reset message will reset the equalizer flat regardless of the EQ Lock setting.

SC-88 Delay

The SC-88 Delay page allows control of the Delay effect (Effect 4 controller 94) on the SC-88. If the SC-88 is in Mode 2 (double module mode) the delay effect is not available, and EQ commands will be ignored. Delay commands will be ignored by sound modules that do not support them.

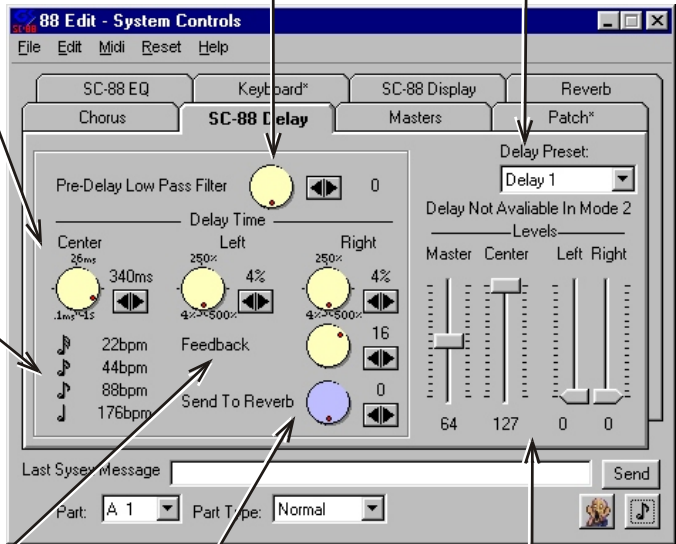
The Delay Time Center, Left and Right set the base delay time (Center) and the left and right delay times as a percentage of the center time.

This displays approximate tempo equivalents for the current center delay time.

Tempo values are displayed for thirty-second, sixteenth, eighth, and quarter notes. Values over 300 beats per minute will not be displayed.

The Low Pass filter setting controls the coloration of the effect sound. Higher values produce a darker sound.

Delay presets set all of the delay parameters to appropriate values to produce a particular effect.



Feedback sets number of delay repeats, larger values producing more repeats. Negative values feedback with inverted phase.

This sends delayed sound to the Reverb effect.

The level controls adjust the level of delayed sound returned from the center, left, and right delay time controls, with the master fader setting the overall level of the delay effect.

Note: On the SC-88, controller 94 is used to set the amount of sound sent to the delay effect from each channel. The default value for controller 94 is zero. Regardless of the settings on this page, no delay sound will be heard until a value for controller 94 larger than zero is sent to the channel. (The Keyboard Page allows delay send level (controller 94) to be set.

System Parameters

Reverb

The Reverb page allows control of the Reverb effect (Effect 1 controller 91) on any GS compatible sound module. If the SC-88 is in Mode 2, Settings on this page will only affect the reverb settings of the channels on the port that receives the messages.

The Low Pass filter setting controls the coloration of the effect sound. Higher values produce a darker sound.

Reverb presets set all of the reverb parameters to appropriate values to produce a particular effect.

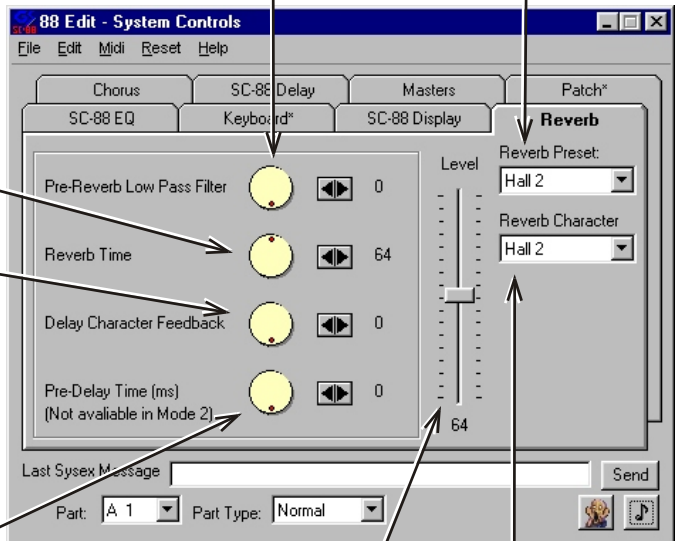
Reverb time lengthens or shortens the amount of time that the reverb will be heard.

If Reverb Character is set to Delay, or Panning Delay, Feedback sets number of delay repeats, larger values producing more repeats.

This sets the amount of time before the reverb effect starts to be heard.

The level control adjusts the level of the reverb effect sound.

Reverb Character displays or sets the reverb type.



Note: On all GS compatible sound modules, controller 91 is used to set the amount of sound sent to the reverb effect from each channel. The default value for controller 91 is 40. (The Keyboard Page allows reverb send level (controller 91) to be set.

Chorus

The Chorus page allows control of the Chorus effect (Effect 3 controller 93) on any GS compatible sound module. If the SC-88 is in Mode 2, Settings on this page will only affect the chorus settings of the channels on the port that receives the messages. The Send to Reverb, and Delay commands are not recognized by older sound modules.

Sets the amount of chorus effect feedback, higher values produce a denser chorus sound, or more repeats if the chorus effect is being used for delay.

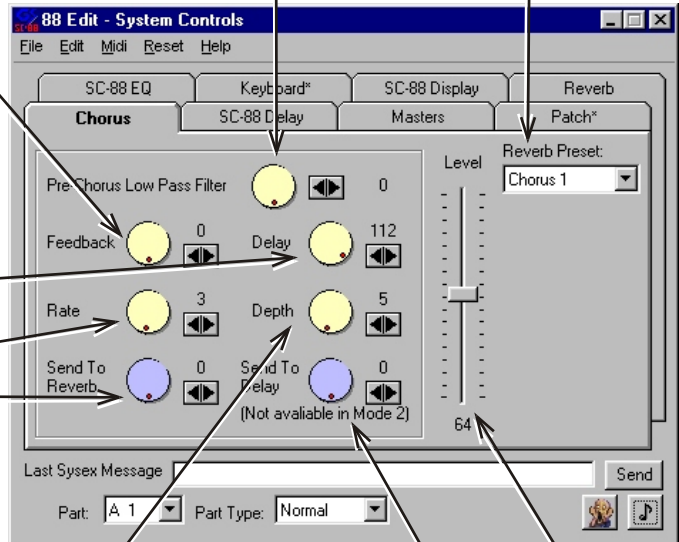
Sets the delay time of the chorus effect. Higher values will cause a larger pitch modulation.

Sets the chorus modulation rate.

Sends delayed sound to the Reverb effect.

Low Pass filter setting controls the coloration of the effect sound. Higher values produce a darker sound.

Chorus presets set all of the Chorus parameters to appropriate values to produce a particular effect.



Sets the chorus modulation depth.

Sends delayed sound to the Reverb effect.

level control adjusts the level of the chorus effect sound.

Note: On all GS compatible sound modules, controller 93 is used to set the amount of sound sent to the chorus effect from each channel. The default value for controller 93 is 0. Regardless of the settings on this page, no chorus sound will be heard until a value for controller 93 larger than zero is sent to the channel. (The Keyboard Page allows chorus send level (controller 93) to be set.

System Parameters

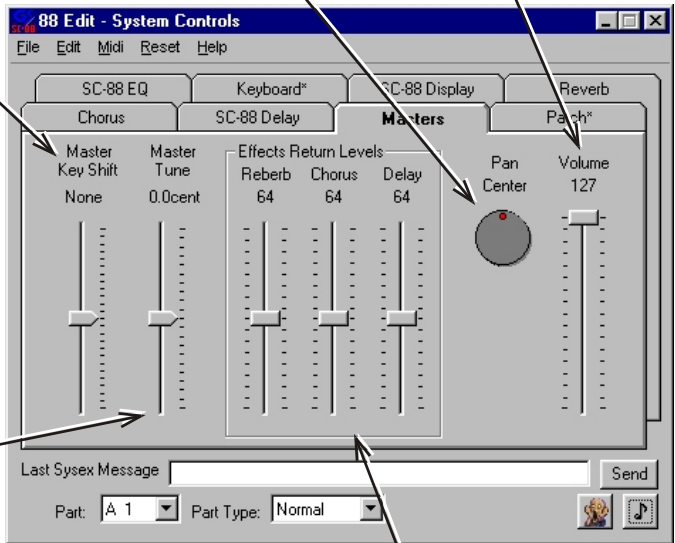
Masters

Pitch shift all non-precussion sounds on the SC-88 up or down by up to 24 semi-tones.

Pitch shift all non-precussion sounds on the SC-88 up or down in 0.1 cent intervals. This can be used in combination with RPN #1 to tune the sound canvas to tunings other than A=440hz. See the section 'About Tuning' in the SC-88 manual for example tunings.

Pan the main stereo output of the sound canvas left or right from its normal position.

Overall volume level of the main stereo output of the sound canvas.



The effect return level faders duplicate the Reverb, Chorus, and Delay level faders, and are repeated here for convenience.

Part Parameters

Controls that set part parameters adjust the settings for the part selected in the Part list-box.

Parts A1 to A16 are the parts on the port SC-88 to which your MIDI cable is attached. B1 to B16 are the parts on the other port.

This manual assumes that 88 Edit is sending to port 'A' on the SC-88. If data is being sent to the 'B' Input, reverse all references to 'A' with 'B' etc.

Some controls can be sent to all parts and some can not. MIDI data, such as note on messages, and controller data (modulation, reverb, chorus, and delay send) can not be sent to 'B' port parts and will always be sent to the 'A' port.

This means that any settings made for 'B' parts will affect sounds on the 'B' port of the SC-88, but not sample notes sent by **88 Edit**.

Sample notes will always be played on 'A' parts even if a 'B' part is selected. MIDI data can be sent to the 'B' port by an external MIDI device plugged into the 'B' port on the SC-88, or another MIDI application transmitting to the 'B' port from a second MIDI interface.

Initially MIDI Channels and SC-88 Parts will have the same numbers, but the SC-88 Parts can be set to respond to different MIDI channels. (See Channel Receive on the Part Settings 1 page.)

Part Parameters

Keyboard

All settings on the Keyboard page will be sent to the current MIDI channel on the 'A' port of the SC-88. All of these settings are sent with standard MIDI messages, and will not be saved in a Sysex file.

Sets the velocity that will be used for sample notes.

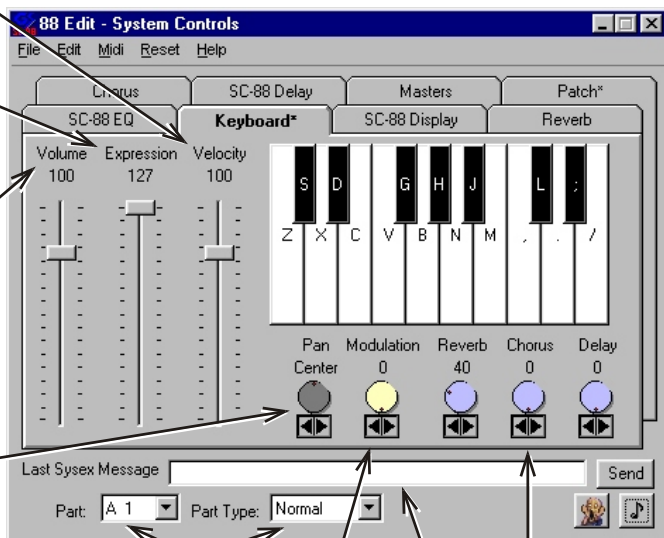
Sets the Expression controller for the current channel. (Controller #11)

Sets the Volume controller for the current channel. (Controller #7)

Sets the Pan controller for the current channel. (Controller #10)

The keyboard keys that play sample notes will remain active whenever possible in the program, but they will not work when the current control is a text-box, or list-box.

These keys will play sample notes on the current channel. To play notes, click on a key, or type the letter displayed on the key. The octave and key or the sample notes can be set on the Patch page.



List-boxes

Sets the Modulation controller for the current channel. (Controller #1)

Text-box

Set the Reverb, Chorus, and Delay send levels for the current channel. (Controller #91 - Reverb) (Controller #93 - Chorus) (Controller #94 - Delay)

Delay send does not work when the SC-88 is in Mode 2, and is ignored by older GS Sound modules.

Patch

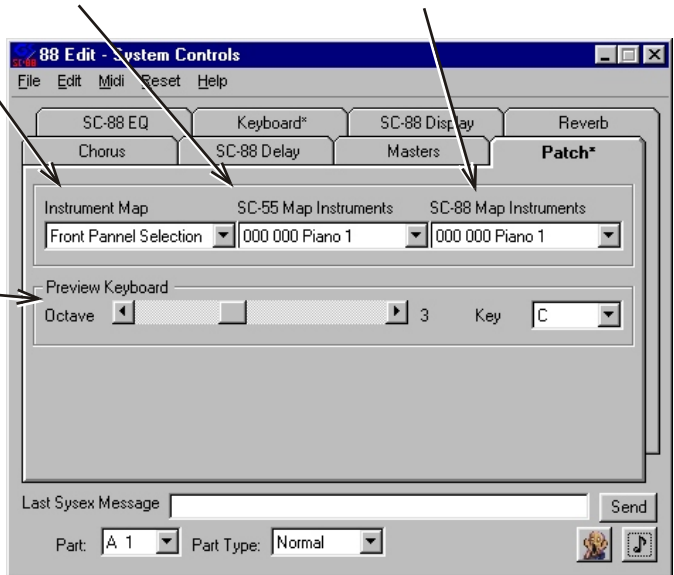
All settings on the Patch page will be sent to the current MIDI channel on the 'A' port of the SC-88. All of these settings are sent with standard MIDI messages, and will not be saved in a Sysex file.

Selects between the SC-88 instrument map and the SC-55 instrument map. On older sound modules that don't support Map select, (Controller #32) select sounds from the SC-88 instrument list.

Selects instruments from the SC-55 instrument map.

selects instruments from the SC-88 instrument map.

Select the octave and key for notes and sample notes.



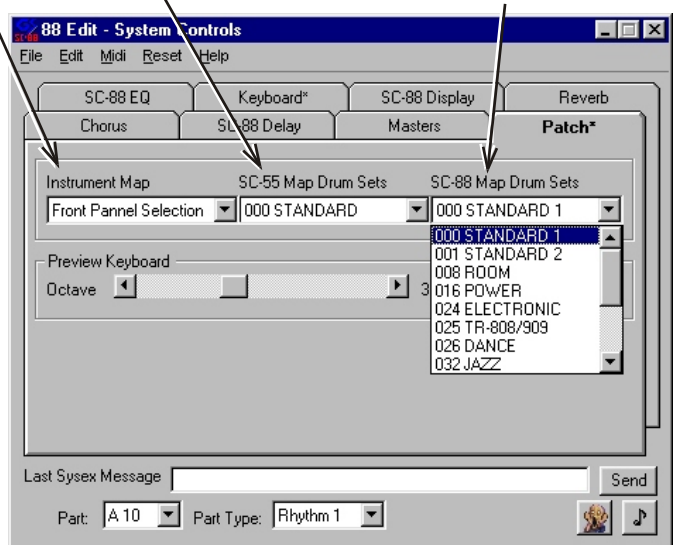
Select between the SC-88 drums sets and the SC-55 drum sets. On older sound modules that don't support Map select, (Controller #32) select sounds from the SC-88 drum sets.

Selects drum sets from the SC-55 instrument map.

Selects drum sets from the SC-88 instrument map.

Note: The SC-88 will reset all drum settings when a new drum set is selected.

Select a drum set before setting drum parameters.



Part Parameters

Part Settings 1&2

These turn off or on the reception of various control change messages for the current channel.

Sets the current channel to monophonic or polyphonic mode.

Changes the MIDI channel that a part responds to. The part number is taken from the Channel box, the

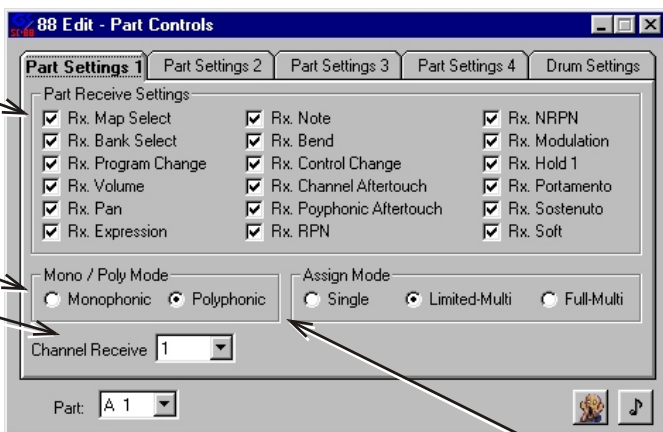
MIDI channel is taken from the Channel Receive box. This will cause notes sent on one MIDI channel to sound on more than one part, allowing the layering of sounds. For example, setting 'A2' to receive '1' will cause 'A2' to only receive MIDI messages from 'A1'; 'A1' will play notes on parts 1 and 2.

Note: Any MIDI data needed to initialize a part, such as patch changes, volume, etc. must be made before this setting.

Fine Tune will shift the pitch of all notes for the selected part up or down by up to 12hz in 0.1hz intervals.

Key Shift will transpose MIDI notes for the selected part up or down by up to 24 semitones.

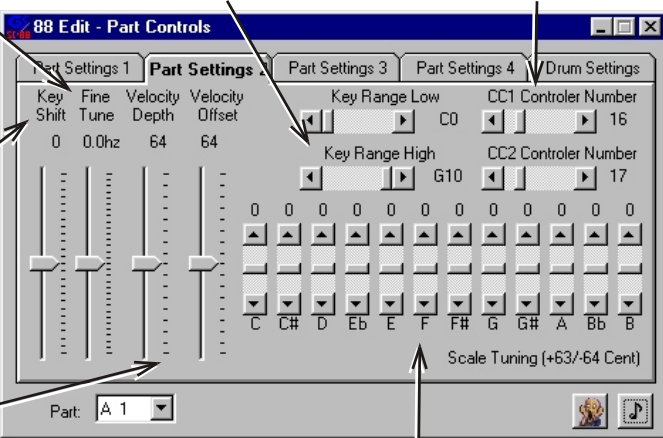
Velocity Depth and Offset adjust the selected part's sensitivity to note velocity values.



Sets the note assign mode for the current channel.

These limit the range of MIDI notes to which this part responds.

Assign a controller number to CC1 or CC2.



These allow each note in the scale to be tuned individually, the SC-88 manual includes several examples of settings for these controls.

Part Settings 3

Settings on this page affect the basic sound of the instrument on the current part. Each instrument sound has its own predetermined settings for these values. These settings modify the preset values up or down from the defaults. Some sounds default to maximum or minimum settings, so adjusting these controls may have limited effect on some sounds. For drum parts, some sounds will not be affected.

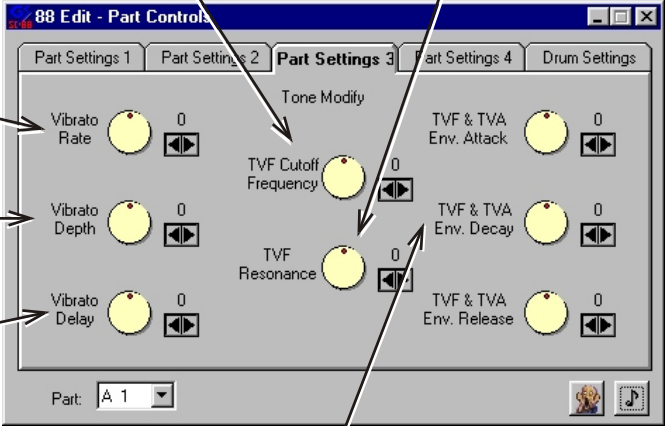
TVF Cutoff Frequency adjusts the tone of the sound, negative values are darker, positive values are brighter.

TVF Resonance adjusts the response peak near the cutoff frequency.

Vibrato Rate adjusts the pitch modulation speed for sounds on the current part.

Vibrato Depth adjusts the depth of the pitch variation.

Vibrato Delay adjusts the amount of time before the Vibrato effect starts.



These controls adjust the attack, decay, and release of the sound on the current part.

TVF - Time Variant Filter - Varies the tone of a sound over time.

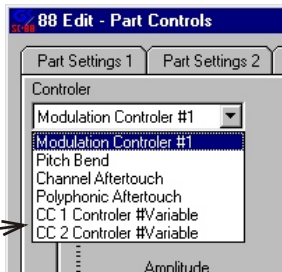
TVA - Time Variant Amplifier - Varies the volume of a sound over time.

Part Parameters

Part Settings 4

Settings on this page affect the behavior of various functions. The effects will not be heard unless a larger than zero value has been set for the function. For example Modulation Depth (Controller #1) must be set higher than zero before changes to the modulation effect will be heard.

CC 1 and CC 2 are user definable effects, initially set to respond to controllers 16 and 17. These controller numbers can be set on the Part Settings 2 page.



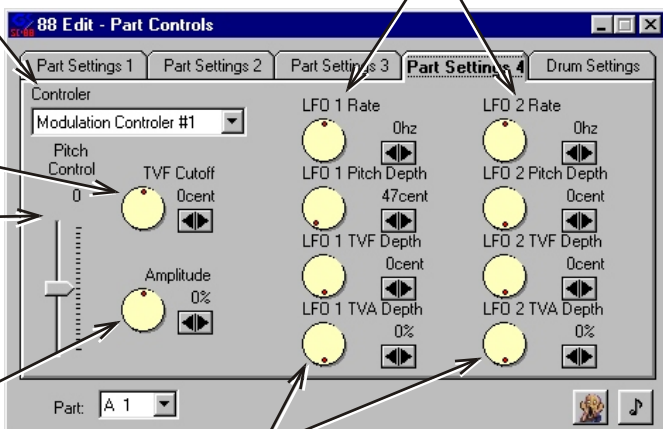
This selects the effect that will be modified by the other controls on this page. Settings can be made for as many of the effects as desired.

Set the speed of the low frequency oscillators.

TVF Cutoff can be used with TVF Depth to create a "wah" effect.

Controls the amount of pitch shift caused by the selected effect.

Increases or decreases the volume of the sound for the selected effect.



TVA Depth can be used to create a tremolo effect, modulating the volume of the sound.

LFO 1 and LFO 2 settings provide 2 independently controllable oscillators for each effect.

Modulation and Pitch bend defaults are preset to produce effects, the other controllers produce no effects until the settings on this page are changed.

TVF - Time Variant Filter - Varies the tone of a sound over time.

TVA - Time Variant Amplifier - Varies the volume of a sound over time.

LFO - Low Frequency Oscillator

Drum Settings

Settings on this page adjust percussion sounds for either drum part Rhythm 1 or Rhythm 2. Any changes made to drum settings will be reset by the Sound Canvas when the drum set is changed. Select the desired drum set before adjusting drum sounds.

When placing Sysex messages for drum settings in a MIDI file, ensure that the desired drum set is selected before the system exclusive messages are sent.

Displays the drum part that will be edited. A drum part should be assigned to Rhythm 2 before editing Rhythm 2 tones.

Displays the name and note number of the drum tone to be adjusted.

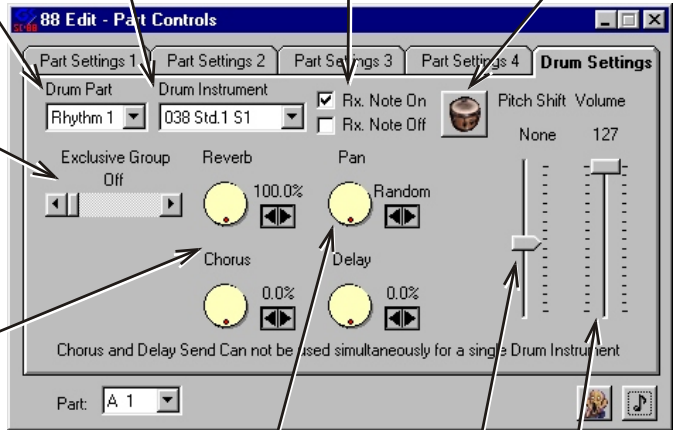
Set the selected drum tone to receive or not receive note on and off messages. Most drum tones don't need to receive note off messages.

Plays a sample note of the selected drum tone. If Rhythm 2 is selected, a part must be assigned to Rhythm 2.

Sets the current tone as part of an exclusive group. Any note sent to one member of an exclusive group will stop all other sounds in that group.

set the effect depth for the selected tone as a percentage of the send level (Controllers 91, 92, & 94) for the selected drum part.

Chorus and Delay can not both be used on any one drum tone.



Sets the position of the selected drum tone in the stereo field.

Shifts the pitch of the selected drum tone up or down.

Sets the volume of the selected drum tone.

MIDI Files

System exclusive messages saved by **88 Edit** can be inserted into MIDI sequences with most sequencers. The first exclusive message should be an appropriate reset message at the very beginning of the file. There should be at least a 50ms delay after any reset message. If a large amount of exclusive data is being sent, additional messages should be sent after a short delay.

Large system exclusive messages may cause an audible disruption of playback if sent while notes are playing, and should be sent during silence at the beginning of the song whenever possible.

Most sequencers have an event list editor that can be used to insert controller messages and system exclusive messages. Check the manual for your sequencer for detailed information.

Controller values such as Reverb Send (#91) can be sent before or after system exclusive messages controlling the effect.

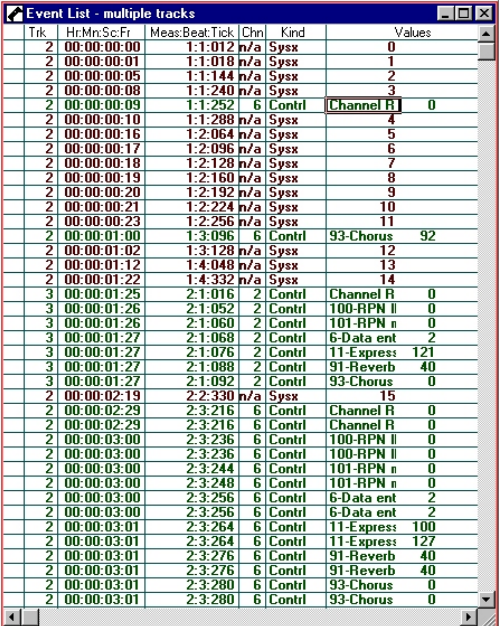
Patch change messages for drum channels should be sent before any exclusive messages that adjust drum tones are sent.

This event list window from a popular sequencing program shows how system exclusive messages and controller messages are inserted into MIDI data.

This sequencer lists only a number for each Sysex message, and has a separate editor for input or editing of the actual exclusive data.

Note that each event has a slightly different time. It is especially important that data entry messages (Controllers #6 & #38) are sent after the RPN (Controllers #100 & #101) or NRPN (Controllers #98 & #99) messages.

In some cases it will be more appropriate to use controller messages than system exclusive messages. Volume (Controller #7), Pan (Controller #10), and Effect send levels (Controllers #91, #92, & #94) are good examples. These can be set at any point in the song with a single MIDI message.



Trk	Hr:Mn:Sc:Fr	Meas:Beat:Tick	Chn	Kind	Values
2	00:00:00:00	1:1:012	n/a	Sysx	0
2	00:00:00:01	1:1:018	n/a	Sysx	1
2	00:00:00:05	1:1:144	n/a	Sysx	2
2	00:00:00:08	1:1:240	n/a	Sysx	3
2	00:00:00:09	1:1:252	6	Contrl	Channel R 0
2	00:00:00:10	1:1:288	n/a	Sysx	4
2	00:00:00:16	1:2:064	n/a	Sysx	5
2	00:00:00:17	1:2:096	n/a	Sysx	6
2	00:00:00:18	1:2:128	n/a	Sysx	7
2	00:00:00:19	1:2:160	n/a	Sysx	8
2	00:00:00:20	1:2:192	n/a	Sysx	9
2	00:00:00:21	1:2:224	n/a	Sysx	10
2	00:00:00:23	1:2:256	n/a	Sysx	11
2	00:00:01:00	1:3:096	6	Contrl	93-Chorus 92
2	00:00:01:02	1:3:128	n/a	Sysx	12
2	00:00:01:12	1:4:048	n/a	Sysx	13
2	00:00:01:22	1:4:332	n/a	Sysx	14
3	00:00:01:25	2:1:016	2	Contrl	Channel R 0
3	00:00:01:26	2:1:052	2	Contrl	100-RPN II 0
3	00:00:01:26	2:1:060	2	Contrl	101-RPN n 0
3	00:00:01:27	2:1:068	2	Contrl	6-Data ent 2
3	00:00:01:27	2:1:076	2	Contrl	11-Express 121
3	00:00:01:27	2:1:088	2	Contrl	91-Reverb 40
3	00:00:01:27	2:1:092	2	Contrl	93-Chorus 0
2	00:00:02:19	2:3:330	n/a	Sysx	15
2	00:00:02:29	2:3:216	6	Contrl	Channel R 0
2	00:00:02:29	2:3:216	6	Contrl	Channel R 0
2	00:00:03:00	2:3:236	6	Contrl	100-RPN II 0
2	00:00:03:00	2:3:236	6	Contrl	100-RPN II 0
2	00:00:03:00	2:3:244	6	Contrl	101-RPN n 0
2	00:00:03:00	2:3:248	6	Contrl	101-RPN n 0
2	00:00:03:00	2:3:256	6	Contrl	6-Data ent 2
2	00:00:03:00	2:3:256	6	Contrl	6-Data ent 2
2	00:00:03:01	2:3:264	6	Contrl	11-Express 100
2	00:00:03:01	2:3:264	6	Contrl	11-Express 127
2	00:00:03:01	2:3:276	6	Contrl	91-Reverb 40
2	00:00:03:01	2:3:276	6	Contrl	91-Reverb 40
2	00:00:03:01	2:3:280	6	Contrl	93-Chorus 0
2	00:00:03:01	2:3:280	6	Contrl	93-Chorus 0

Web Addresses

These web addresses point to sites where Multi-client MIDI drivers, or other useful MIDI information has been found. These addresses may be outdated as web addresses change frequently, Check the Great White North Technologies Web Page for current links.

Great White North Technologies

E-mail: greatwhite@home.com

www: <http://members.home.com/greatwhite/>

Hermann Seib MultiMID Multi-client MIDI driver.

www: <http://netbase.t0.or.at/~seib/midi.htm>

PG Music - Check this page for the PG Music Multi-client MIDI driver.

www: <http://www.pgmusic.com/otherpro.htm#prod1>

The Sound Canvas Users Group page

www: <http://www.visi.com/~gje/scug/>

Registering 88 Edit

When you run 88 Edit for the first time, you will see this registration screen.

Enter your name and the registration key that you received with the program. It is important to type your name exactly as it appears with the registration key.

If you enter the registration information incorrectly, or have not received your registration key yet, the program will run normally as a demo, but will ask for the registration information each time the program starts. Be sure to enter this information correctly sometime within the first 30 days.

