Chirp Virtual MIDI Keyboard Controller User Guide (Rev 1.1)

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Introduction and Overview

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chirp™

Virtual MIDI Controller

tanager AUDIOWORKS

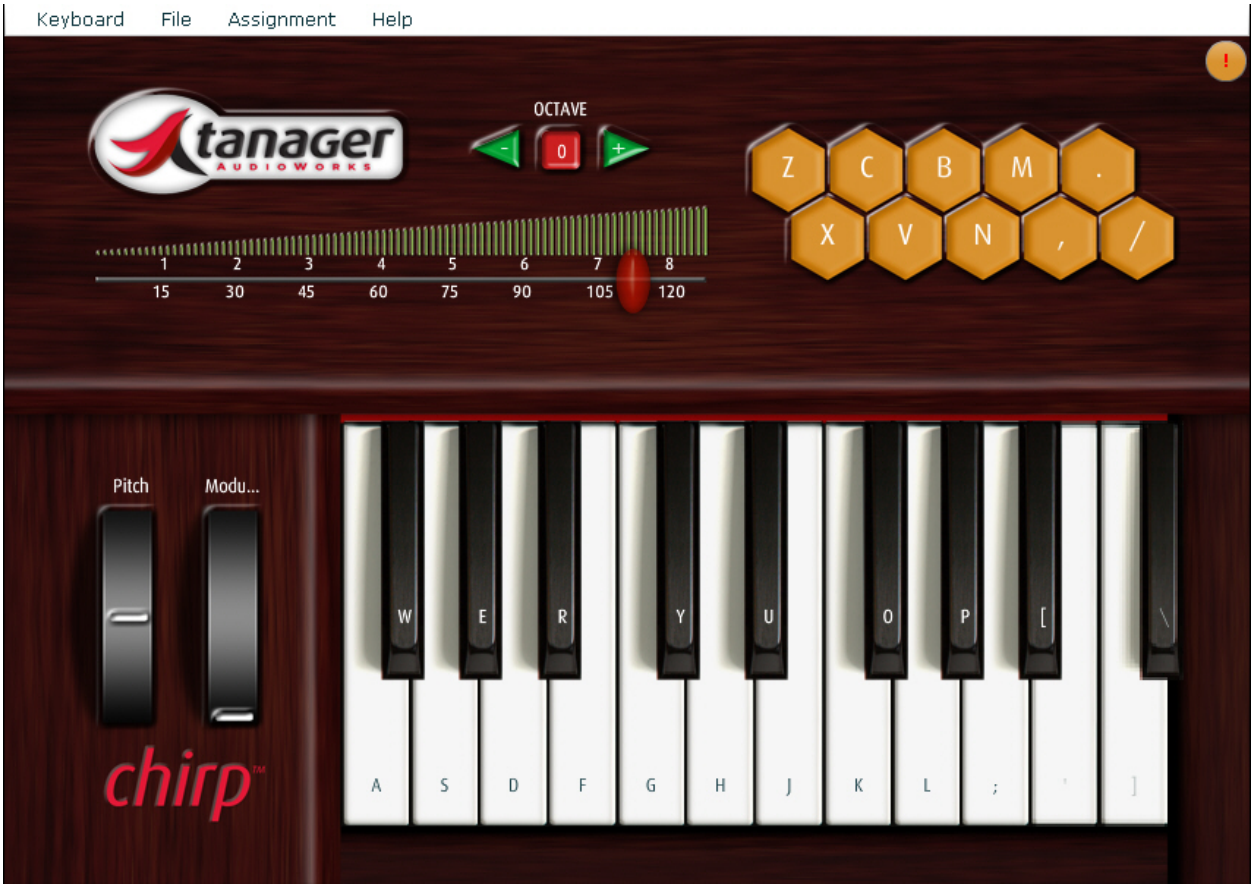
What is Chirp?

Chirp turns your computer or laptop keyboard into a virtual MIDI keyboard controller with 18 piano keys, 10 drum triggers and all the control you'd expect from a piece of hardware.

The program produces no actual "sound" itself - instead it produces MIDI notes and messages, which in turn ”drive” any music software application, MIDI instrument or plug-in soft synthesizer capable of generating sound from MIDI input. Many music software applications and soft synths include some virtual keyboard capability, but very few allow the MIDI notes to be generated using your computer keyboard. Many limit

input to a mouse click, which makes chord entry and real-time playing virtually impossible. Chirp accommodates up to 7 notes on the keyboard to be played simultaneously and in real-time, allowing for even complex 9/11/13 chord entry over 2 octaves.

Chirp was designed to be a low latency controller capable of both supply MIDI notes and displaying played notes from any music application with MIDI I/O capabilities. We envisioned the primary computer platform as a Windows or Mac laptop, and most likely in a remote environment where the use of a physical keyboard is impractical, such as an airplane seat, bus seat (or even your desk at work!) Chirp allows the user to choose which computer keys are mapped to the piano keyboard keys, as well as assign the trigger pads to any MIDI event.



Features and Specifications

Chirp Features

Ports

- 16 Channel Virtual MIDI Input/Output Port (installs via driver on Windows or Mac and appears in any MIDI music host application)
- Piano Keyboard and Trigger Pads assignable to different MIDI Channels

Keyboard

- High resolution photo-realistic display - large and small display sizes available
- 18 to 21 notes mapped to computer keyboard keys for generating MIDI data with assignable velocities
- 18 to 21 on-screen keys to display incoming MIDI note data
- Note velocity controlled by graphical slide or preset values assigned to top row number keys
- Graphical octave control allows access to all 127 defined MIDI notes

Controls

- 2 programmable continuous controller wheels operated with the mouse or glide pad - assignable to any continuous controller
- Space Bar assignable as on/off pedal (damper/sustain, etc)
- 10 trigger pads assignable to any MIDI event (on a different channel than the keyboard keys)
- "All Notes Off" Panic button
- Ability to send note data even when Chirp is not the focused application

MIDI Data Capable From Continuous Controller Wheels

- Control every MIDI continuous controller defined in the latest MIDI Specification
- Pitch bend and Mod wheel set up as default controllers; user can define any combination

MIDI Data From Trigger Pads

- Note On/Off with assignable velocity
- Program Change messages
- Specific Controller Values
- SYSEX Messages
- Default mapping to GM Drums on MIDI Channel 10 for most commonly used drum sounds

Minimum Computer Requirements

Chirp's computer requirements are driven by the Adobe AIR Framework. Here's what you'll need:

PC Minimum Requirements

- Intel® Pentium® III 1GHz or faster processor
  Windows XP with Service Pack 2; Windows XP Tablet PC Edition; or Windows Vista® Home Premium, Business, Ultimate, or Enterprise including 64 bit editions; Microsoft® Windows® 2000 with Service Pack 4; Windows 2003 Server
- 512MB of RAM
- Microsoft .NET 1.1 Framework or later installed (available from Windows Update website.)
- A MIDI Sound Source, or the built-in Microsoft GS Soft Synthesizer
- Any Digital Audio Workstation, synthesizer or sampler software capable of producing sound from incoming MIDI data

Mac Minimum requirements

- Intel Core™ Duo 1.83GHz or faster processor; PowerPC® G4 1GHz or faster processor
- Mac OS X 10.4.11 or Mac OS X 10.5.2
- 512MB of RAM
- MIDI Sound Source or built in Quicktime MIDI Synthesizer
- Any Digital Audio Workstation, synthesizer or sampler software capable of producing sound from incoming MIDI data

Using Chirp

Chirp Installation

Installing Chirp

The installation process will install up to 3 items on your computer - a MIDI Driver (on the PC), the Chirp application itself, and Adobe AIR. (Chirp (like SongFrame and Chorducopia from Tanager AudioWorks) is written in the new Adobe Integrated Runtime (AIR) environment. The first beta version of Adobe AIR was released in March 2007 as a next generation programming environment. Version 1.0 of AIR was released on February 25th, 2008. Similar to JAVA, it provides support for both PC and Mac. In addition, it provides the rich user interface experience of Flash combined with the potential for stand-alone web/desktop applications.)

Chirp appears to your computer just like a hardware MIDI interface. Your music software application will "see" Chirp when you go to the MIDI setup menu in that program and look at installed MIDI ports and instruments - "Chirp MIDI In" and "Chirp MIDI Out" should show up in those menus.

Installing Chirp on Windows

When you install Chirp, you'll need to have an internet connection. The Chirp for Windows installer file will do several things - it will download the latest version of the Chirp software, check to see if you have the required Adobe AIR framework installed on your PC (and if not installs it), and check to see if you have a MIDI Loopback driver installed on your PC. If not it offers to download one. While any loopback driver will work fine, including LoopBe1 or the older MIDI Yoke driver, the installer directs you to install Hurchalla Maple.

Installation Process

Double click on the Chirp Installer zip file (if you received it via EMAIL or Download.) This will allow you to extract the Chirp_Webinstall_Win.exe installation program. Double click on that file and the Chirp installation will begin. You will be prompted to agree to the End User License Agreement, then enter your name, EMAIL address and serial number. CDROM Installations - If you are installing Chirp from a CD - it will begin automatically,and then it will check for the latest installer file from our server. Unfortunately it does this after you enter the info, so when it downloads the new installer file, you may find yourself having to enter your name and serial again - sorry for the inconvenience. We wanted your Chirp to be fresh!

Once this is entered, you'll be taken to a screen informing you that Chirp is about to download the necessary installation files. Click on **Continue**. The total file size being downloaded is approximately 37Mb. Click **Continue** once the files are downloaded.

Next, the installer will check to see if your PC has Adobe AIR installed. If it finds AIR, it will prompt you that it is already installed - click **Close**. If it needs to install AIR, it will direct you to do so - this is a quick installation.

Next, the Installer will tell you that Chirp for Windows requires a MIDI Loopback Driver. (A loopback driver is a piece of software that directs the MIDI output of one program to the MIDI input of another.) If you know you already have one installed on your PC, you can click Finish. If you are not sure or are certain you don't have one installed - click **Get Driver**. The installer will take you to get the Hurchalla Maple driver (but if you had a preference you could install any other one.) Follow the Maple Driver prompts - click **Next** and then accept the agreement.

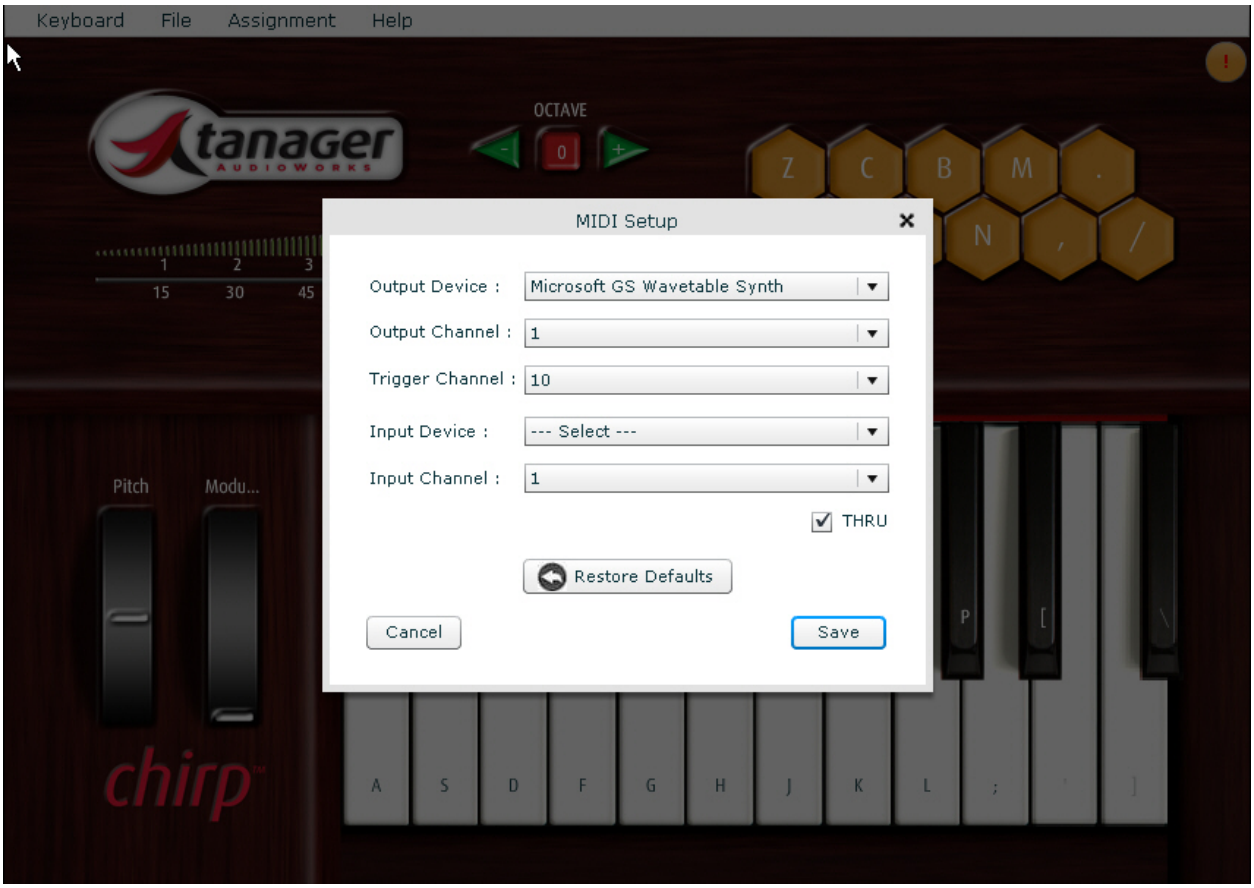
The driver installer requires the 1st reboot of your computer - go ahead and restart. You may notice that there is a “Chirp Is Finished” screen behind the Maple installation screen - ignore it. When the computer comes back from the re-start, you will see another screen telling you that Chirp is finished installing and it requires a re-start. Yes, sorry - a second re-start is required here. Once the computer comes back from this - you are finished. We promise.

You'll know you have everything installed properly if you run Chirp, click on **File** -> **MIDI Setup** and in the 1st drop down menu (**Output Device**) you see both the Microsoft GS Wavetable SW Synth and an entry called **Chirp MIDI Out**. If you select the Microsoft SW Synth, you should be able to hear piano sounds if you play the labeled computer keyboard keys. (If not see the next section.) Just a note - setting this to Chirp MIDI Out directs the MIDI notes to any software application which has its MIDI Input set to “Chirp MIDI In.” This is the setting you'll use with your DAW or sequencer. Refer to the manual for more details on setup with popular DAW and music applications.

A Windows side note - for some strange reason, Windows PC's have a slight delay when you first start playing notes after you load Chirp - it goes away after you play a few notes. We had a team of scientists look at the issue and the report back was “beats the hell out of us.” Not to worry. While we're on the topic - a bit about computer keyboards. Unless you have a fancy gaming keyboard, most computer keyboards are wired in a row/column switch matrix - there are certain key combinations that may not work together (hence some chords you won't be able to play.) This is completely dependent on the computer manufacturer and beyond the scope of what we can help with. As you launch Chirp, every now and then Adobe AIR will check to see
if there is a newer version when you launch Chirp - and if it finds one it installs it (similar to the Adobe Flash player.) This is quick and painless.

Configuring Chirp in Windows XP

Choose **Start**, **Control Panel**, then select **Sounds and Audio Devices**. On the **Audio** tab, go to the **MIDI music playback** section and select **Microsoft GS Wavetable Synth** from the drop down box. Click on the **Volume** button below this dialog box and make sure the volume for the **SW Synth** is turned up. Close that dialog, select **OK** and close the Control Panel. Load Chirp. Click on the **File** menu, then choose **MIDI Setup**. In the **Output Device** drop-down menu, choose **Microsoft GS Wavetable Synth**. Set the **Output Channel** to Channel 1 and click Save.



Play the Chirp keyboard with either the computer keyboard keys or the mouse - you should hear a piano sound coming from your computer speakers.

Configuring Chirp in Windows Vista

IClick on the **File** menu, then choose **MIDI Setup**. In the **Output Device** drop-down menu, choose **Microsoft GS Wavetable Synth**. Set the **Output Channel** to Channel 1 and click Save. (VISTA behaves differently than XP for MIDI. The dialog box that allows a default MIDI synth sound is gone. Right click on the speaker icon in the tray or choose **Start**, **Control Panel**, then select **Sound**. MIDI settings in Vista will be found under the **Recording** tab in case you need to make changes.)

Play the Chirp keyboard with either the computer keyboard keys or the mouse - you should hear a piano sound coming from your computer speakers.

Installing Chirp on Mac

When you install Chirp, you'll need to have an internet connection. The Chirp for Mac installer file will do two things - it will download the
latest version of the Chirp software, and also download the Adobe AIR framework on which Chirp relies.

Installation Process

Double click on the Chirp Installer zip file (if you received it via EMAIL or Download.) This will allow you to extract the **Chirp_Webinstall_Mac.exe** installation program. Double click on that file and the Chirp installation will begin. You will be prompted to agree to the End User License Agreement.

CDROM Installations - If you are installing Chirp from a CD - it will tell you that it's going to copy the installation file from the CD to the hard disk (since the installer needs to write information and it can't do that to a CD.) Do this and double click the **Chirp_Webinstall_Mac** file.

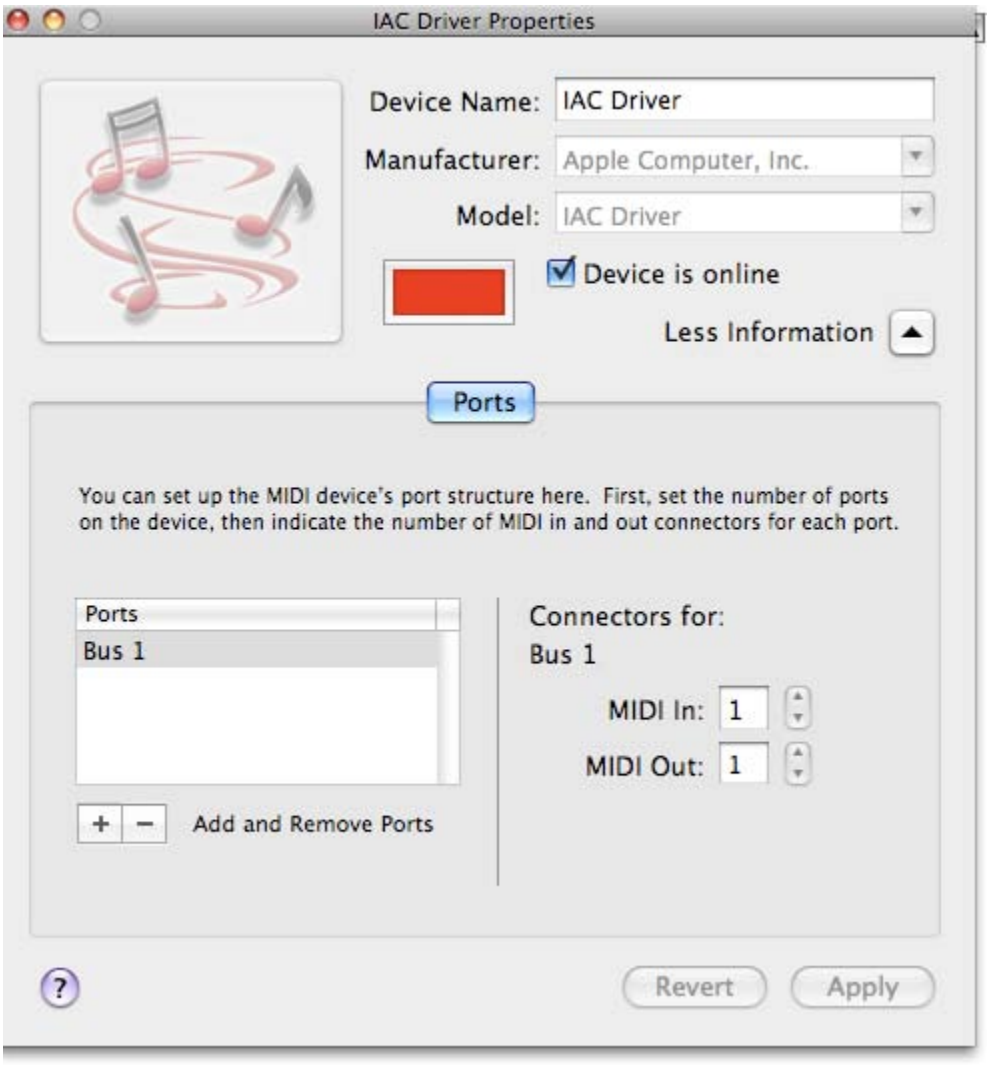
Next, it will check for the latest installer file from our server. You'll need to first agree to the license agreement before it checks, and after it downloads the new installer file, you may find yourself having to agree again - sorry for the inconvenience. We wanted your Chirp to be fresh!

The installer will now download the necessary installation files. The total file size being downloaded is approximately 37Mb. Next, you'll be prompted to enter your serial number. Once this is done, it will begin installing files. The installer will now take you to the Adobe AIR web site - click **Download Now** and install this file; Chirp requires this on your Mac. Fear not - this is a quick installation! You'll be taken to a **Finish Up** screen - click Quit at this point; your Chirp is installed. No re-start is necessary.

Configuring Chirp on the Mac

Chirp Mac should work from the Mac keyboard once its loaded. The Mac automatically connects Chirp to the built-in Quicktime MIDI Synth. Press the keyboard keys and you'll hear a piano sound - press the drum trigger pad keys (z,x,c,v, etc) and you'll hear drums. Simple as that.

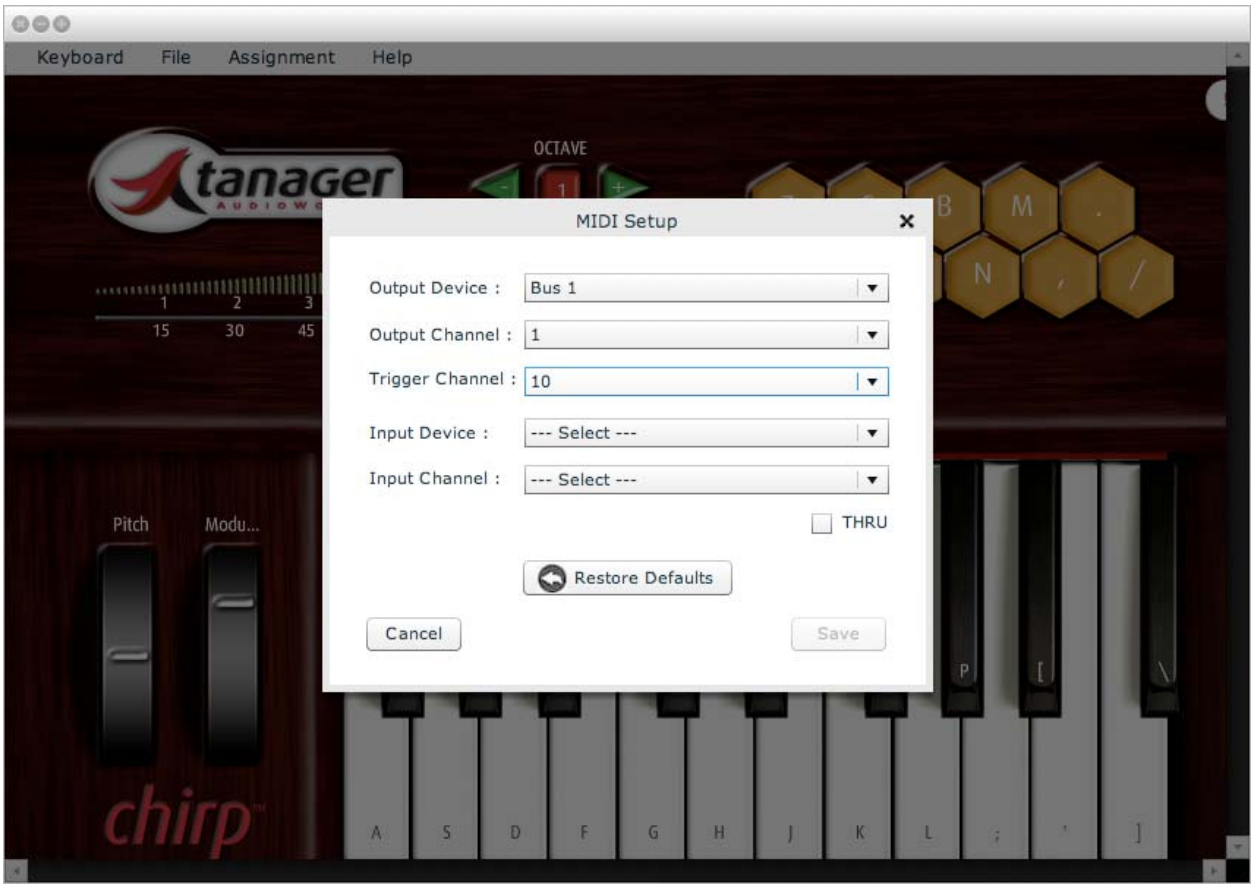
To route the MIDI data to your favorite DAW or sequencer program, Chirp utilizes the Mac's **IAC Driver** found under the **Audio-MIDI Setup** Utility. Be sure to open this utility, double click the **IAC Driver** icon and check the box saying **Device is Online**. Chirp will show up as “Bus 1” in your music software applications.



One more thing – under **Universal Access** in the **System Preferences** menu on your Mac, be sure to check the box at the bottom of the dialog that says **Enable access for assistive devices**. This option is required in order for the **Send Notes Always** capability in Chirp to operate properly.

In Chirp, select the **File** menu and choose **MIDI Setup** at the bottom of the list. Make sure to set the Output Device to match the IAC Driver's Port (**Bus 1** in this case.) Set the output channel to Channel 1 (or whatever channel you would like the Chirp

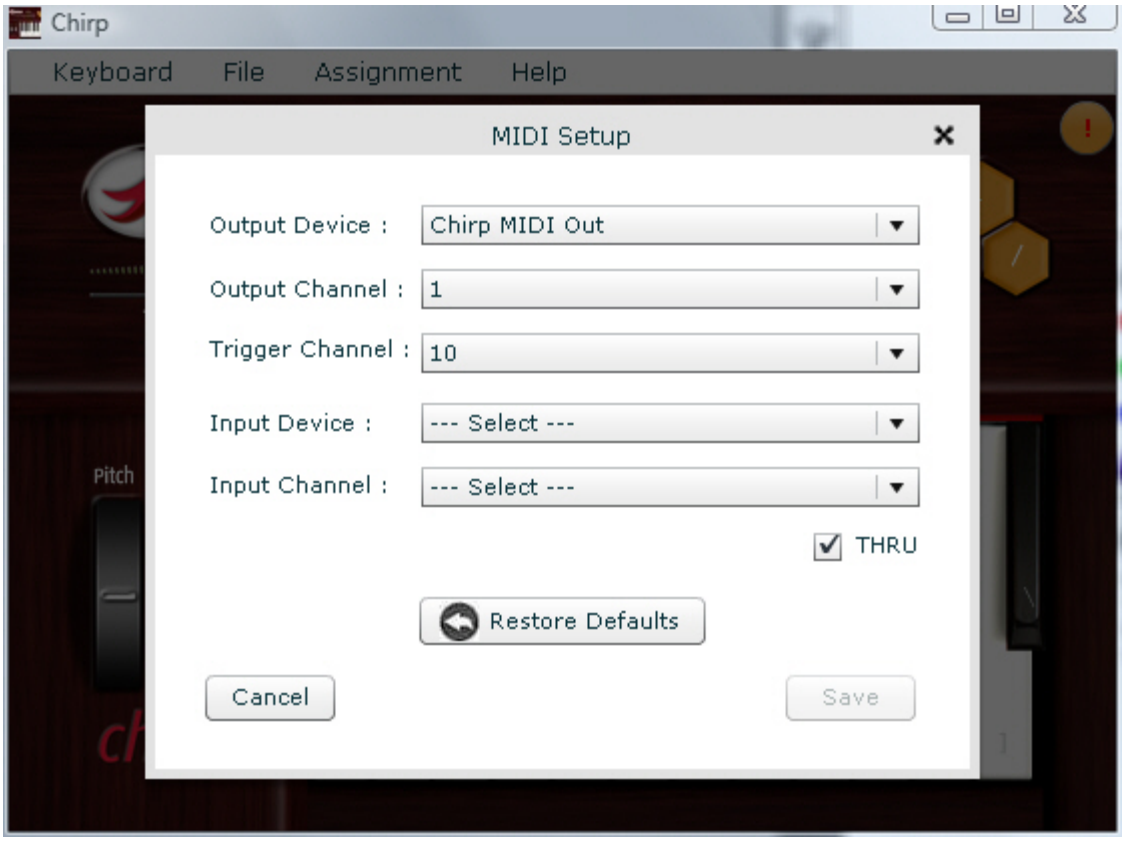
keyboard to transmit on.) Set the Trigger channel as well - the default is channel 10 (which is the channel most drum synths listen on.)



A bit about computer keyboards. Unless you have a fancy gaming keyboard where every key is wired independently, most computer keyboards are wired in a row/column switch matrix - there are certain key combinations that may not work together (hence some chords you won't be able to play.) This is completely dependent on the keyboard manufacturer and beyond the scope of what we can help with. Also, as you launch Chirp, every now and then Adobe AIR will check to see if there is a newer version when you launch Chirp - and if it finds one it installs it (similar to the Adobe Flash player.) This is quick and painless.

MIDI Port and Channel Setup

Load Chirp and select the **File** menu and choose **MIDI Setup** at the bottom of the drop down list.



Any MIDI device installed on your computer should show up in these menus. Use the **Output Device** drop-down menu to select the MIDI port that Chirp should send its MIDI keyboard data to, and use the **Output Channel** menu to select the MIDI channel Chirp will transmit on. If you just plan on using Chirp to make sounds without a host music application - keep the Output Device set to your internal synth sound. To use Chirp to send MIDI data to a host digital audio workstation application set the Output Device to **Chirp MIDI Out**. You can designate a specific channel for Chirp to transmit its data on, or leave the **Output Channel** un-selected. In your DAW application, choose **Chirp MIDI In** as the Input Device. Most DAWs will allow you to select "**MIDI Omni**" or "**All**" to listen for data on any channel - you can choose this or select a specific channel matching your setting in Chirp's **Output Channel** setting.

Input Device and **Input Channel** should be set up if you wish to see MIDI note data from another MIDI application or port to be displayed on the Chirp keyboard display. In your host application, set the output port to Chirp MIDI Out and choose a channel. For more DAW or synth-specific set up and usage information, see the **Using Chirp With Popular Music Software** section.

Basic Usage

Using Chirp

Once configured properly, Chirp is simple to use. The various keys and controls are mapped by default to the following computer keyboard keys (irrelevant of case):

Key #	Note	Computer Keyboard Mapped Key
1	F	A
2	F#/Gb	W
3	G	S
4	G#/Ab	E
5	A	D
6	A#/Bb	R
7	B	F
8	C	G
9	C#/Db	Y
10	D	H
11	D#/Eb	U
12	E	J
13	F	K
14	F#/Gb	O
15	G	L
16	G#/Ab	P
17	A	;
18	A#/Bb	[
19	*B*	*.*
20	*C*	*]*
21	*C#/Db*	\

Keys 19,20 and 21 are considered "extended" since they are not physically aligned to the piano keyboard as the other key mappings are. They can be enabled in the **Keyboard** -> **Preferences** menu. (Entering more complex chords in the key of C may require these to be on.)

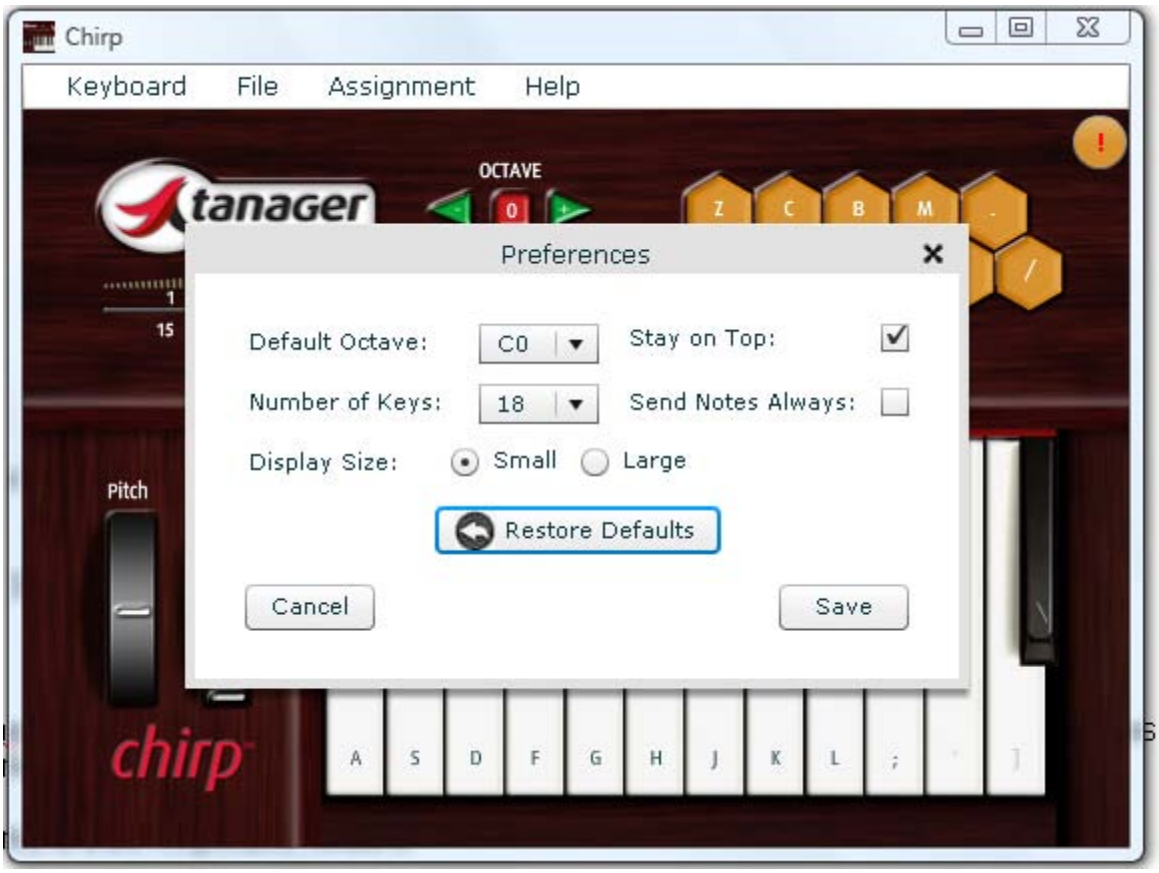
The **Keyboard** Menu also allows the user to remove the computer key labels from the Chirp graphical interface. This may be desirable if the MIDI In mode is being used to watch a piano being played by externally supplied MIDI data (where the computer key maps are irrelevant.) Choose **Hide Labels** to remove the labels.

To quit Chirp, simply click on the "**X**" in the upper right in Windows or the upper left on the Mac. You can also choose **Quit** in the **Keyboard** menu.

Tooltips

Chirp lets the user know what specific MIDI notes or controller values are mapped to the keyboard at any time. Hover your mouse over any control or key and wait a moment - Chirp will display that note number, note value or controller value as a Tooltip. This is an ideal way to determine exactly which MIDI note numbers are being sent to an external synth or sound module.

Setting Up Chirp Preferences



Chirp allows the user to specify the default octave, number of active keys (18,19,20 or 21) and the default display size of the application. Return to the Factory Settings at any time by hitting Restore Defaults. The default octave is mapped so the 1st C note (mapped to the computer's G key by default) is Middle C (MIDI Note 60.)

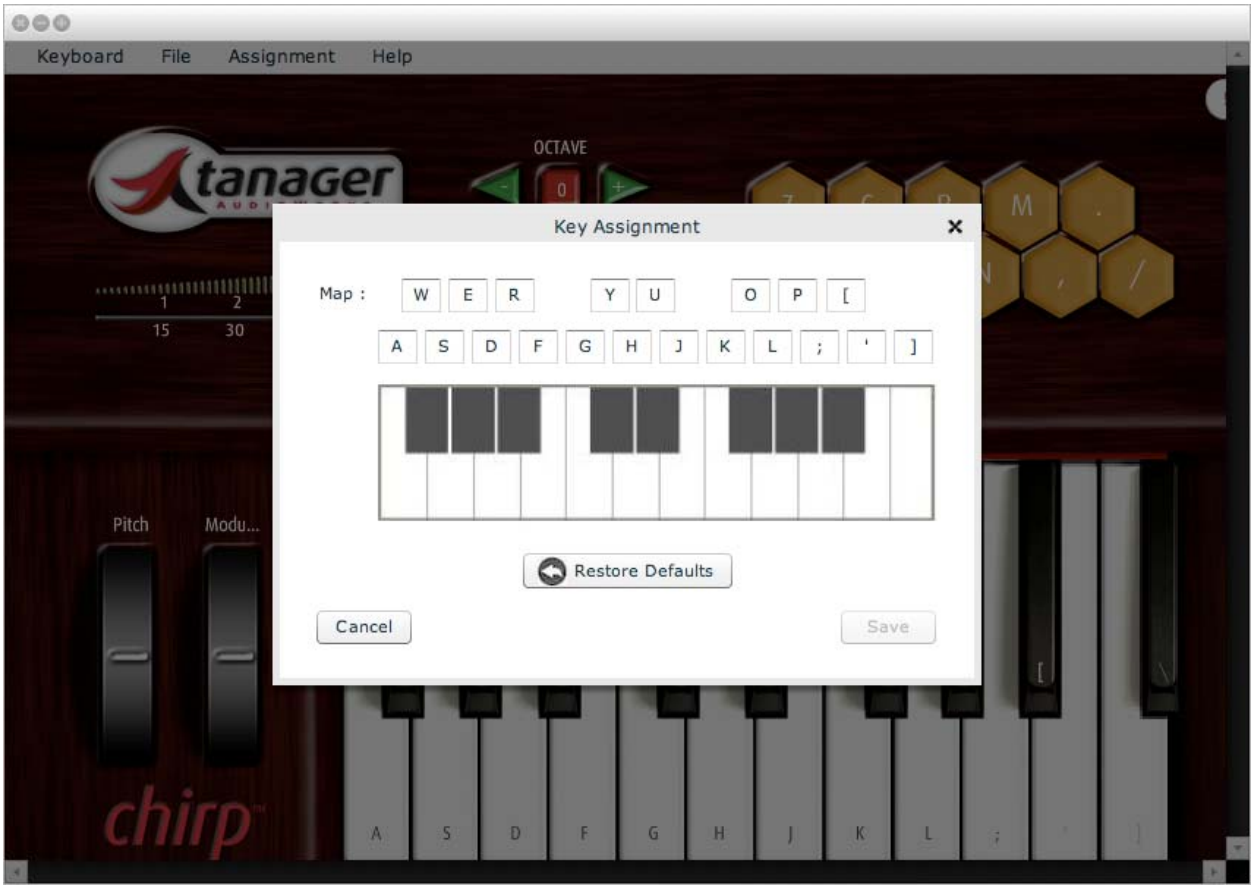
The **Stay on Top** checkbox forced Chirp to always be displayed even when it is not the focused application. The "**Send Notes Always** checkbox will allow the Chirp keyboard keys to work even when Chirp is not the focused application. Be certain that your focused application (your sequencer, DAW or whatever) doesn't also use those keyboard keys as shortcuts. If they do, try re-mapping the Chirp keys in the Assignment -> Key dialog box.

Changing Piano Key Mappings

If you are unhappy with the default computer keyboard mappings, Chirp allows you to define your own and save your settings away. Your definitions need to conform to a rules:

- Key mappings must be a single key - no key combinations are allowed (i.e Ctrl+M.)
- Keys are mapped next to each other, and valid key sets are:
  - F1 through F12
  - `,1,2,3,4,5,6,7,8,9,0,-,=
  - Q,w,e,r,t,y,u,i,o,p,[,],\
  - A,s,d,f,g,h,j,k,l,;,’
  - Z,x,c,v,b,n,m,,,.,/

Select **Assignments** and choose **Key** to change key mappings.



You can always return to the Factory Settings by choosing restore Defaults - this is the case with all assignable parameters in Chirp. Chirp will force you to enter mappings per the list above - click on the 1st box (with "A" in it) and enter the letter "Q" - the rest of the keys will automatically fill in with the valid key set.

Velocity Ranges

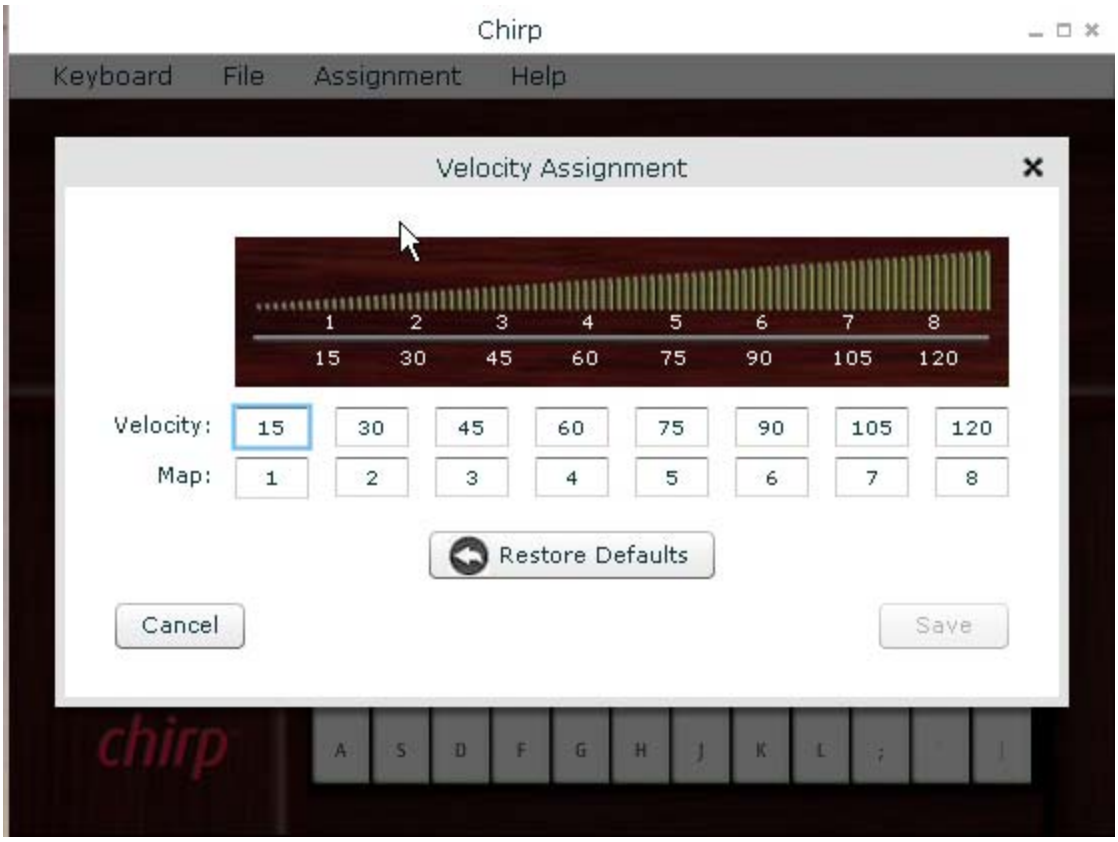
The Velocity slider controls the velocity of a MIDI note - this represents how hard or fast the note was played on a real piano keyboard. Higher values sound like they were struck harder, and lower values represent gently pushing the key down. Since the PC keyboard is not capable of representing real key velocity and pressure like a MIDI keyboard controller can, we have to "tell" the host application how hard the notes should have been struck. You can grab the slider with your mouse and set the velocity where you'd like it - or just hit a number key on your computer and the velocity will jump to a preset. These presets are user definable - look in the **Assignment** menu and select **Velocity** to make these whatever you want.

Velocity Range	Default Key	Terminology and Loudness
1 - 15	1	Extremely soft
16 - 30	2	Pianissimo (Very Soft)
31 - 45	3	Piano (Soft)
46 - 60	4	Mezzo Piano (Moderately soft)
61 - 75	5	Mezzo Forte (Moderate)
76 - 90	6	Forte (Loud)
91 - 105	7	Fortissimo (Very Loud)
102 - 127	8	Extremely Loud

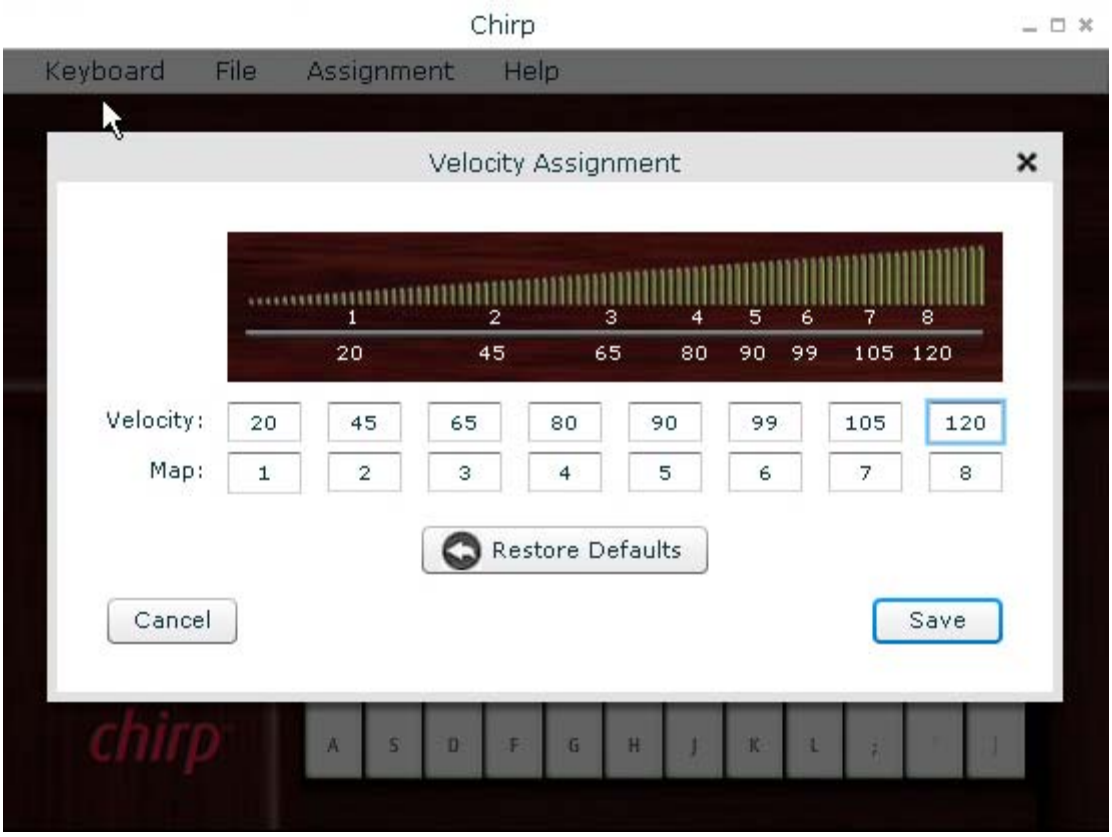
Keep in mind that some MIDI modules and synthesizers produce different timbres when notes vary in velocity - make sure to play with striking a note at a variety of velocity values on the synth you are using to see if this is the case.

Changing the Default Velocity Key Assignments

Chirp ships with the computer's top row number keys pre-assigned to specific velocity settings. To create your own velocity mappings, simple select the **Assignments** menu and choose **Velocity** from the drop down list. The **Velocity Assignment** dialog will open up. Enter any velocity level you wish for each number key. *Note - if you wish to use other keys instead of the number keys, enter that key in the **Map** field. Chirp allows any unmapped key to be used. Previously mapped keys cannot be used.*

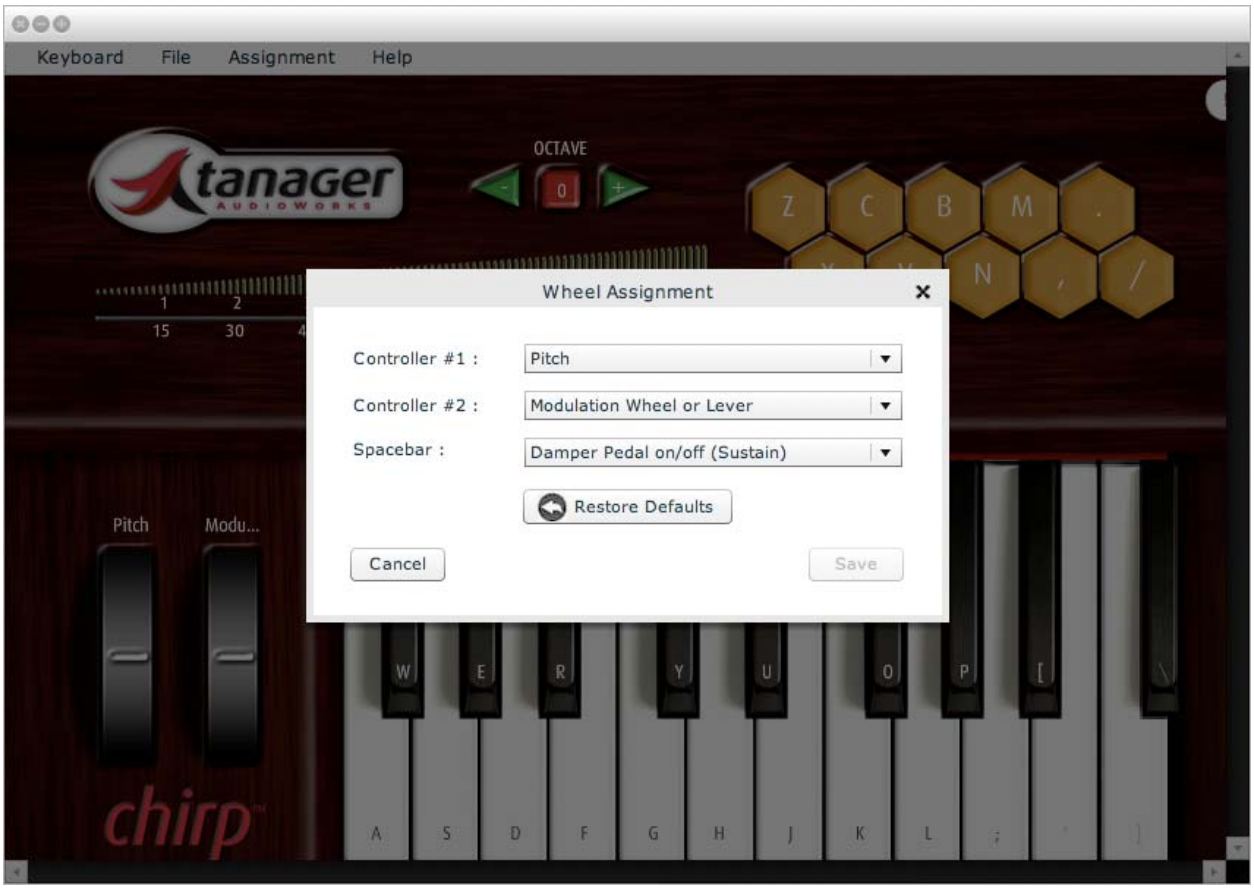


The scale will automatically change to show the new key mappings as shown below.
Note - Chirp will only allow velocity values in ascending order to be entered in these fields.



Controller Wheel and Space Bar Assignments

Choose the Assignment menu and select Wheel.


Keyboard
File
Assignment
Help
OCTAVE
Wheel Assignment
Controller #1 :
Pitch
Controller #2 :
Modulation Wheel or Lever
Spacebar :
Damper Pedal on/off (Sustain)
Restore Defaults
Cancel
Save
Pitch
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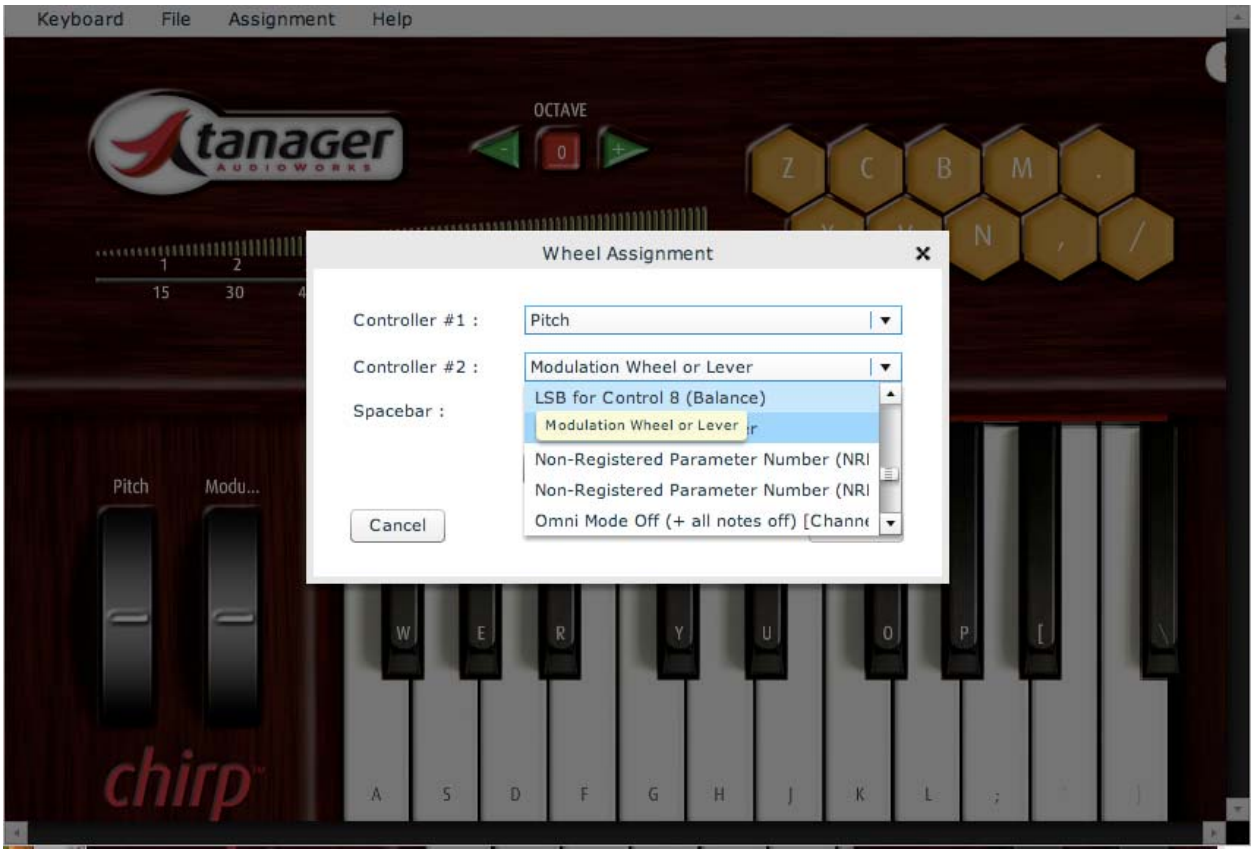


Any controller defined in the MIDI specification can be assigned to either of the two wheels. If the controller has a "return to center" hardware behavior such as Pitch bend, the wheel will emulate this behavior. For other controller values, the wheel stays where it is set. Both wheels are moved using a mouse or glide pad - grab the white line on the controller wheel with the mouse button down and move the wheel - the controller values are sent continuously. The same choices are provided in the drop down menu for Controller #1 and #2 - scroll through. (Chirp has the full name of the controller from the MIDI specification in the menu - hover over the choice and a Tooltip will appear with the non-truncated full controller name.)

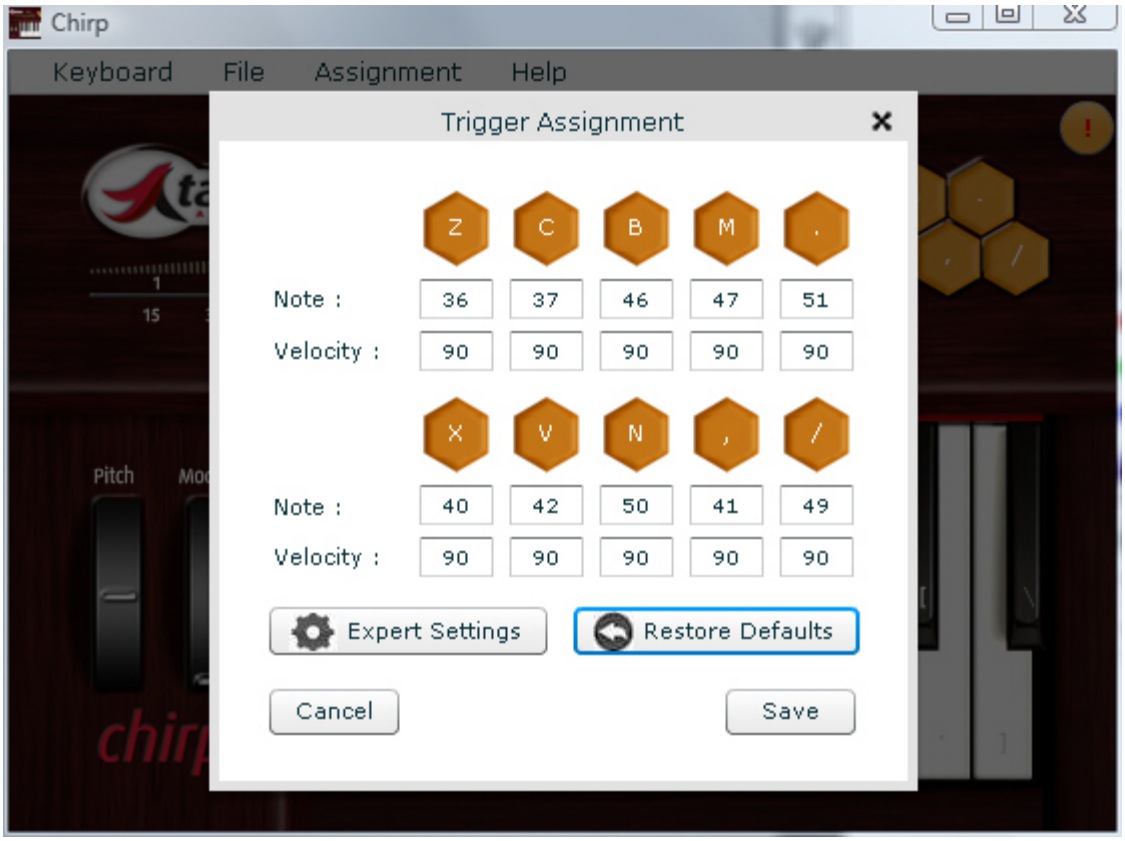
Note - remember that not all samplers allow pitch bends or other controller actions on the note data - this all depends on the hardware or software synth patch sounds.

The spacebar can be assigned to any "on/off" controller such as sustain, foot pedal, portamento, etc. Simply look through the choices in the drop-down menu and select.

Trigger Pad Setup

Chirp offers 10 programmable trigger pads mapped to computer keyboard keys. These can be used to send not only MIDI Note data on a different channel than the piano key

mappings (ideal from drum triggers) but any specific MIDI event. These include Note data, Program Changes, specific Continuous Controller values, or even manufacturer-specific System Exclusive (SYSEX) MIDI data.



There are two setup views - Simple Settings and Expert Settings. Simple Settings allows the user to map computer keyboard keys to specific Note data. For each trigger pad, there are two data fields the user can manipulate - Note and Velocity. Refer to your MIDI Hardware of Soft Synthesizer manual for more details on what values to use. If you are mapping to drum sounds, we included a table which may help you determine what sounds map to which MIDI Note values. The default trigger mappings are all set to a Velocity of 90 and the following drum sounds:

Key	Drum Sound
Z	Kick
X	Snare
C	Side Stick
V	Closed Hi-Hat
B	Open Hi-Hat
N	High Tom
M	Mid Tom

Comma	Floor Tom
Period	Ride Cymbal
/	Crash Cymbal

As long as you are transmitting the Triggers on the appropriate MIDI Channel for your Drum Synth or external module (usually Channel 10) you should be able to get up and running quickly with these key mappings.

Saving or Recalling Your Setups

Chirp has the capability to save the complete setup of the controller in a file - including the key mappings, trigger pad mappings, controller wheel mappings and the MIDI port setup. This is extremely convenient since the setup of Chirp will change often depending on the host sequencing or synthesizer software (or hardware) used.

To save your setup, select the **File** Menu and select **Save**. Use the **Open** selection to set up Chirp from a previously saved file. Each setup or assignment menu offers a **Restore Defaults** choice which brings Chirp back to the factory default setup.

All Notes Off Button

Occasionally MIDI notes get "stuck" through a variety of circumstances. The Chirp display will show one or more keys in a depressed state when this occurs. To reset all notes, hit the **panic button** (exclamation point) icon in the upper right of the Chirp display. All notes will return to the OFF state.

Keyboard Shortcuts

Chirp has several useful keyboard shortcuts programmed in. These are:

Shortcut	Command
CTRL N	New
CTRL O	Open
CTRL W	Close
CTRL S	Save
CTRL Q	Quit
CRTL L	Toggle Labels On/Off
CTRL M	MIDI Setup
CTRL-SHIFT K	Key Assignment
CTRL-SHIFT T	Triggers Assignment
CTRL SHIFT V	Velocity Assignment
CTRL-SHIFT W	Wheel Assignment
CTRL H	Help

(On the Mac, use the Apple/Command key in place of CTRL.)

Help Menu

The Help Menu allows the Help system to be loaded by selecting **Chirp Help.**

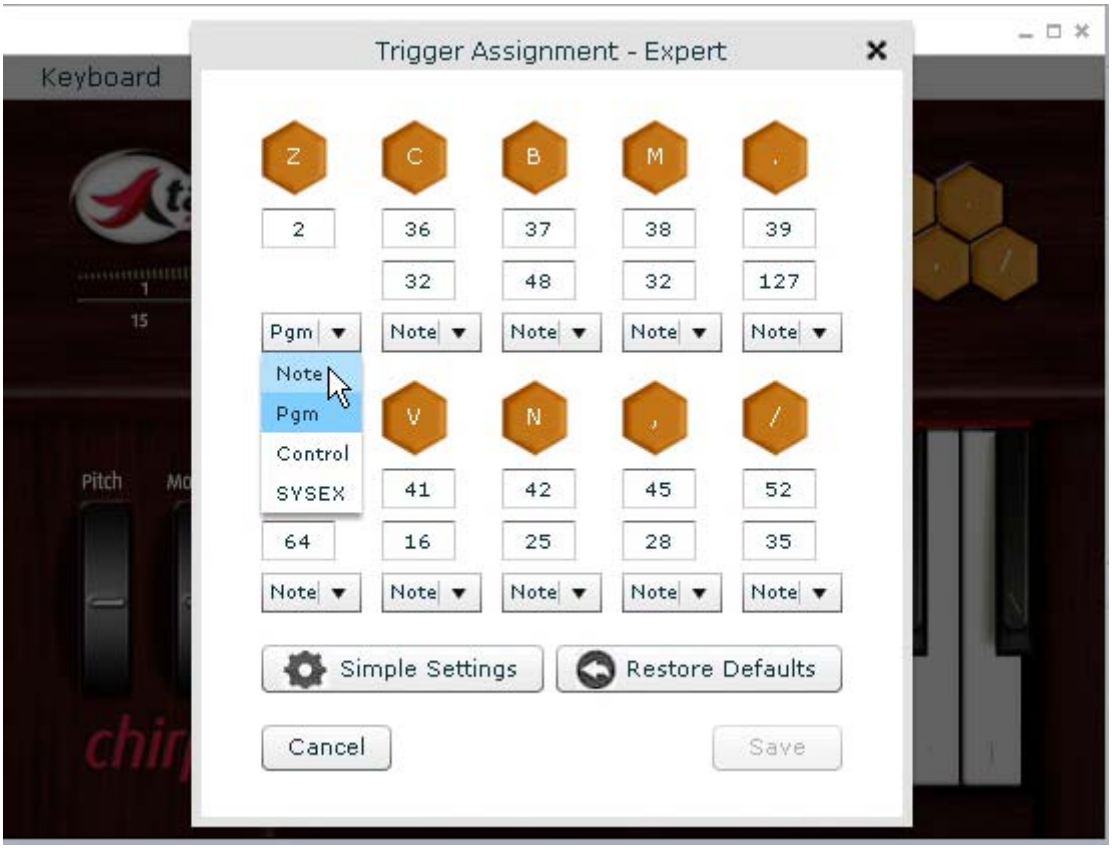
The **Community** selection takes you to the Tanager AudioWorks Forum on the web. This is an open forum discussing Tanager products as well as recording and songwriting topics.

The **Support** selection takes you to the Support page on the Tanager AudioWorks website where Technical Support information can be found.

Advanced Usage

Trigger Pad Expert Settings

Expert Settings



The **Expert Settings** button take you to the **Expert Settings** window. This dialog allows you to send Note, Program Change, Continuous Controller or SYSEX data out for any mapped key is pressed. Chirp allows you to mix and match - each key is completely assignable independent from the others. Depending on which MIDI data type is selected, there will be one or two data fields available. (MIDI Note data is set up as described above in the **Simple Settings** discussion.)

We'll cover how to send Program Changes, Controller Values and SYSEX commands next.

Sending Program Changes

Sending Program Changes from Chirp

Select the **Pgm** choice in the pull down menu. One data field appears for assignment to a specific Program Change Message. Your synthesizer or external sound module manual should contain a table of Program Change numbers and specific sounds or patches for these choices. Consult this table for General MIDI program change definitions if the synth you are using is mapped to GM standards (such as the "Microsoft GS Wavetable SW Synth" supplied with most Windows computers.)

Program Change Overview

Program Change and Bank Change messages allows a user to change the sound or "patch" of a synthesizer or sound module. The General MIDI (or GM) specification defined 128 unique sounds - these are shown in the table in the Appendix for reference. "Banks" were created allowing unique collections of Programs - the idea being each Bank could hold up to 128 different patches. Most modern synthesizers or sound modules contain many Banks, each containing 128 unique sounds. The programs within these banks most often will NOT relate at all to the GM Patch list. The organization of these Banks are manufacturer-specific; some synths group Banks by sound type (piano, guitars, drums etc) and some merely use them as a collection of sounds. Banks are often named "A", "B", "C", "GM", etc; while the naming of Patches has apparently become a creative endeavor, deviating far from a description of the actual sound. Some synths will have patch names such as "Clean Strat" - far more descriptive than names like "Ice Cream Sunshine" which you will find all too often. You will need to have the patch and bank listing for your particular synthesizer handy to utilize the Program Change messages from Chirp. Chirp will only transmit the MIDI Program number and not the patch names.

For most soft synths, Bank change messages will not be necessary; the Program Change messages programmed into the Chirp Trigger Pads will allow fast changes to instrument sounds.

Sending Specific Controller Values

As in sending Program Changes, select the **Assignment** menu and choose **Trigger** from the drop down menu. Make sure to click the **Expert Settings** button to enter Expert Settings mode. For any trigger pad, click the box with the drop-down menu and select **Control**. The two data boxes can now be used to send a specific Controller Value. The top box is used for the Controller Value (see the table in the Appendix for a quick reference), and the lower box is used to hold the specific value you'd like to send. Use the controller wheels for controllers "continuous" in nature such as Pitch bend or Modulation. Use these for On/Off controllers (#64 - 68 for example) or ones that require a specific value to be sent (such as Effects Depth, Chorus Depth, etc.)

RPN/NRPN Messages

The MIDI Specification defines two commands used by manufacturers to send device specific controller information. These are the:

- RPN - Registered Parameter Number (Common controllers "registered" with the MIDI Manufacturer's Association and included in the MIDI Spec)
- NRPN - Non-Registered parameter Numbers (manufacturer-specific controller messages.)

Consult the user manual of the specific synthesizer or MIDI device for RPN or NRPN values and their associated function.

Sending SYSEX Messages

SYSEX (or System Exclusive) MIDI Messages allow any manufacturer to create their own custom commands to control some aspect of a MIDI device. Unlike RPN and NRPN controller commands which conform to a specific message format, SYSEX messages can be whatever the manufacturer defined them to be.

SYSEX messages are sent in Hex format. Every SYSEX message starts with a Hex **F0** and ends with an **F7** (End SYSEX) byte. After the F0 byte, the message contains a Manufacturer's ID byte - these values are defined by the MIDI Manufacturers Association (MMA) and can be found in the General MIDI specifications. Most synthesizer or external hardware devices that allow a user to send SYSEX messages usually have a "parameter assignment table" or other reference tool detailing the format of available SYSEX commands.

SYSEX is sent by assigning a Trigger Pad a particular SYSEX message. Select the Assignment menu and select Trigger. Click on Expert Settings. Instead of just Note values and velocity assignments shown in the Simple Settings dialog, you can now choose a command type to send. Pick a trigger pad to program and click on the drop down menu and choose SYSEX. One data field will be shown - you will type the SYSEX command here. Chirp takes care of the F0 and F7 bytes for you, so your SYSEX message will almost always begin with the Manufacturer's ID. Refer to your device manual for more help.

We'll provide an example here, but remember SYSEX message format and content is manufacturer specific. We made sure to set the Chirp MIDI Out (Keyboard - > Preferences) to the port and channel our XV-88 was on. Then, we programmed a trigger pad in Chirp to send a SYSEX command to our Roland XV-88 Synthesizer

setting the CHORUS TYPE of PERFORMANCE COMMON to DELAY (DT1.) The XV-88 manual provided the command structure in Hex values as follows:

F0 - Exclusive Status (Start SYSEX)
41 - Roland ID
10 - Device ID (17)
00 10 - Model ID (XV-88)
12 - Command ID (DT1)
10 00 04 00 - Address
02 - Data
6A - Checksum
F7 - End SYSEX

Since Chirp takes care of the 1st and last bytes, we type into the Chirp SYSEX data field (with no spaces) **411000101210000 4026A** and hit Save. When that trigger pad is now clicked, that command is sent to the Roland XV-88.

Using Chirp with Popular Music Software

Sequencers and DAWs

ProTools

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Pro Tools. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

In Pro Tools, select the **Setup** menu, then choose **MIDI** and **MIDI Studio**. Click on Create to add Chirp to the MIDI list. On the right side of the dialog box, type Chirp in the Instrument Name field. (Tanager Audioworks does not appear in the preset list of manufacturers in Pro Tools.) Select Input Port and choose Chirp MIDI In, and select output Port and choose Chirp MIDI Out. Leave all the channel buttons alone below - these should all be blue (or selected.)

Go back to the **Setup** menu and choose **MIDI** then Input Devices. The **MIDI Input Enable dialog appears;** make sure Chirp is checked in this dialog box.

Create an Instrument Track in Pro Tools. Insert a soft synth and load a preset sound. Chirp should play the instrument at this point.

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

Reason

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Reason. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

To use Chirp with Reason you'll first need to ensure that Reason is set to "see" Chirp. Load Reason and select **Edit** then **Preferences** (**Reason** -> **Preferences** on the Mac.) Select **Keyboards and Control Surfaces** from the drop-down menu at the top of the page. Select **Add** and choose **<Other>** in the **Manufacturer** drop-down menu. In the **Model** dialog, select **MIDI Control Keyboard**. In the **Name** field, you can type "Chirp." **Chirp MIDI In** should be a choice in the **MIDI Input** drop-down menu. Select it and hit **OK**. You can now "X" out of the Preferences dialog box. Make sure an instrument sound is loaded in Reason. Click on Chirp and play it - you should hear that instrument sound. Every time you click on a different track in the Reason Sequencer, you should hear that sound play using Chirp.

A note on programming the Chirp Trigger Pads with Reason's Redrum Drum machine. ReDrum assigns MIDI note numbers to each of its 10 Modules (or drum sounds on each vertical control section.) The first module (usually loaded with a bass drum) is MIDI note number 36. Each subsequent module to the right increments by one (37,38,39, etc.) Set up the trigger pads in Chirp so that the left most pad is MIDI Note 36, and continue mapping all pads to match the drum modules in Reason.

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

Chirp Virtual MIDI Keyboard Controller User Guide (Rev 1.1)

SONAR

If Chirp has been properly installed, it should appear in the list of possible MIDI input and output choices in SONAR. Load SONAR and click on **Options,** then **MIDI Devices**. Find **Chirp MIDI In** and **Chirp MIDI Out** in the input and output dialog boxes and make sure they are selected. Insert any soft synth track (Dimension for example) by choosing **Insert** -> **Soft Synths** and selecting the one you want. In the track controls area choose **Chirp Omni** as the MIDI input selection. Dimension will listen for data on any channel Chirp has been set to transmit on. In Chirp, go to **File** -> **MIDI Setup** and make sure the Output is set to **Chirp MIDI Out**. Set Channel to 1 (although this setting should not matter if you are using the MIDI Omni capability in SONAR just mentioned.) Load a preset in Dimension - Chirp should play it. (Be sure the octave setting matches the Preset's key mappings.)

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

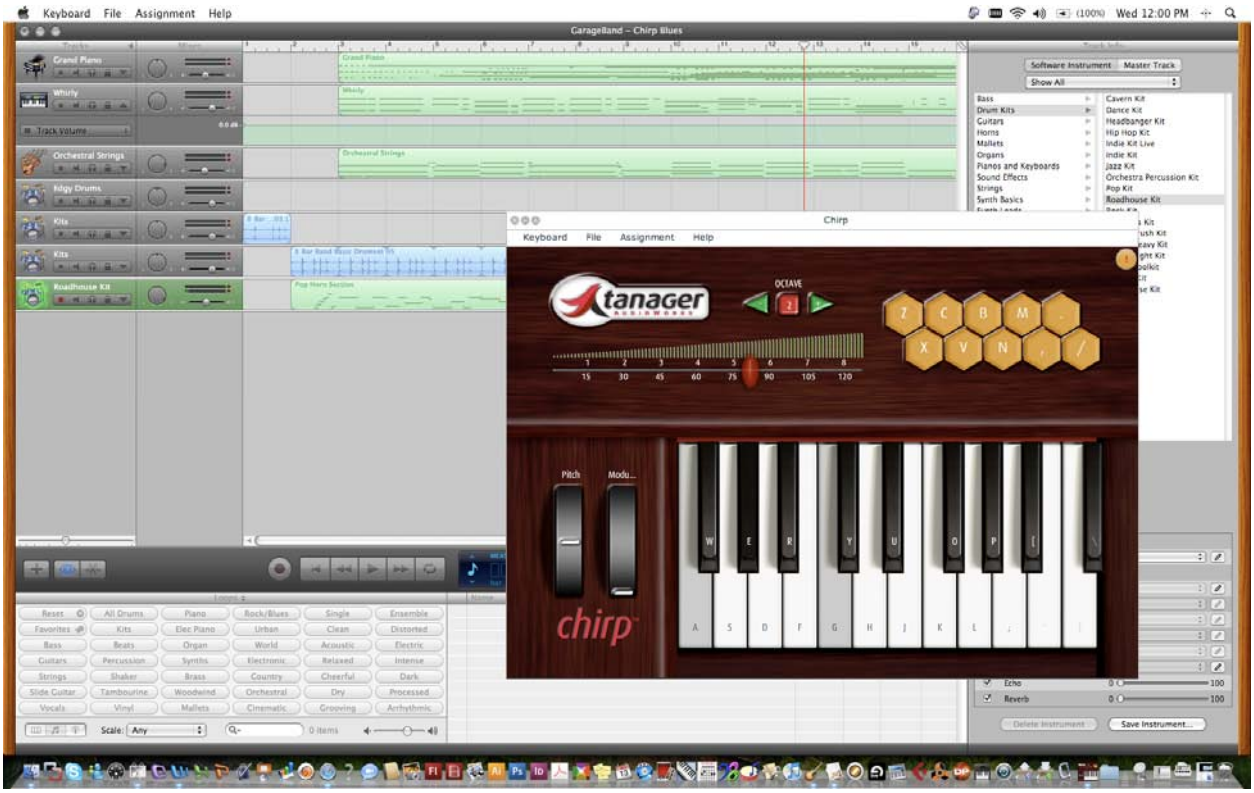
GarageBand

When you first load Chirp on a Mac, you'll hear a grand piano sound when you play it &endash; this is coming from the Mac's built-in Quicktime Music Synthesizer. To use Chirp in GarageBand, you need to tell the Mac to look at a specific MIDI Port which is mapped to see Chirp's output &endash; we use the Mac's IAC Driver to do this. The

IAC Driver setup can be found in the Audio-MIDI Setup utility found under the Utilities Folder in the Applications Folder. Load Audio-MIDI setup, click on the MIDI tab, and double click the IAC Driver icon. Make sure ”r;Device is online” is checked. Chirp will be attached to Bus 1 by default. (IAC stands for ”r;Inter-Application Communications”, and allows one MIDI application (such as Chirp) talk to other applications (such as GarageBand, Logic Pro and Digital Performer.)

In Chirp’s MIDI Setup dialog (File -> MIDI Setup) make sure the Output Device is set to Bus 1 (matching what the IAC Driver’s virtual MIDI port was named) and the Output Channel is on Channel 1. Do the same for the Input Channel settings. GarageBand listens to all MIDI channels at the same time, so unfortunately there is no way to utilize Chirp’s ability to map the trigger pads to a different MIDI (for drum sounds as an example.)

Load GarageBand and create a Software Instrument Track. Click on Chirp &endash;you should hear the Software Instrument sounds being played by Chirp. To ensure that you can keep your focus on recording parts in GarageBand, make sure the ”r;Send Notes Always” selection is checked on Chirp’s Preferences page (Keyboard -> Preferences.) This allows Chirp to continue playing even when it is not the focus application. With this setup, any track in GarageBand that is highlighted should be able to be played with Chirp.



Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

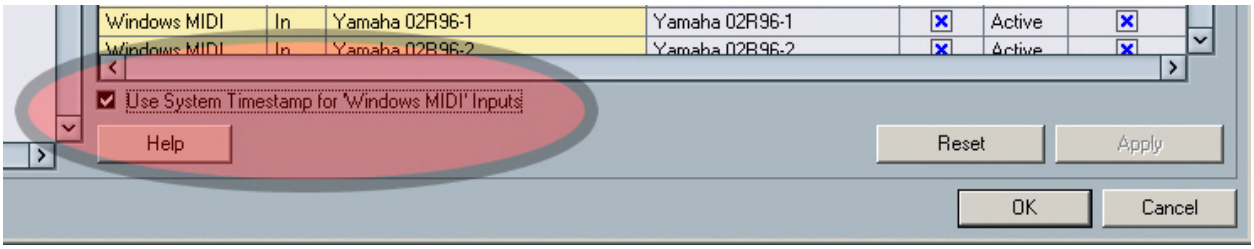
Cubase

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Cubase. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

Load Cubase and select the **Devices** menu. Click on **Device Setup** at the bottom of the list. Click on **MIDI Port Setup** located under the **MIDI** folder on the top left. **Chirp MIDI In** should appear as a MIDI Input port (in yellow) and **Chirp MIDI Out** should show up further down the list as a MIDI output (in blue.) Create an Instrument Track, and in the track controls panel to the left load a soft synth or other sound source onto that track. Choose **Chirp MIDI In** as the MIDI source. Chirp should play the sound loaded on that track.

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

One more thing about Cubase 4 - you may experience an issue where you think you have everything set up properly, but when you try recording all the notes end up bunched up at the beginning of the MIDI Track. To fix this, you need to go to the **Devices** -> **Device Setup** menu; at the bottom of the list of MIDI input and output ports, you'll need to check the box that says " **Use System Timestamp for Windows MIDI Inputs"** as shown below. Steinberg places this menu item there to overcome some issues with the DirectSound drivers associated with MIDI in Windows. This link http://knowledgebase.steinberg.de/95_1.html can tell you more.



Ableton Live

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Ableton Live. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

Load Ableton Live. In the **Options** menu, select **Preferences** at the bottom of the list. Select the **MIDI/Sync** tab. If Chirp is properly installed, it will show up in the **MIDI Ports** section of the dialog box. **Chirp MIDI In** should be selected and "on" for one of the inputs, and **Chirp MIDI Out** should be shown as an output choice further down the list. Turn this **On** only if you want to see MIDI note data shown graphically on the Chirp keyboard as it plays.

In an empty MIDI track, drag in a plug-in instrument, load a patch, and arm the track for recording with the button at the bottom. You should hear the sound as you play Chirp.

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

Logic Pro

When you first load Chirp on a Mac, you'll hear a grand piano sound when you play it &endash; this is coming from the Mac's built-in Quicktime Music Synthesizer. To use Chirp in Logic Pro, you need to tell the Mac to look at a specific MIDI Port which is mapped to see Chirp's output &endash; we use the Mac's IAC Driver to do this. The IAC Driver setup can be found in the Audio-MIDI Setup utility found under the Utilities Folder in the Applications Folder. Load Audio-MIDI setup, click on the MIDI tab, and double click the IAC Driver icon. Make sure "r;Device is online" is checked. Chirp will be attached to Bus 1 by default. (IAC stands for "r;Inter-Application Communications", and allows one MIDI application (such as Chirp) talk to other applications (such as GarageBand, Logic Pro and Digital Performer.)

In Chirp's MIDI Setup dialog (File -> MIDI Setup) make sure the Output Device is set to Bus 1 (matching what the IAC Driver's virtual MIDI port was named) and the Output Channel is on Channel 1. Do the same for the Input Channel settings.

Load Logic Pro. Set up an Instrument Track with a sound you like. You should hear the selected instrument play.

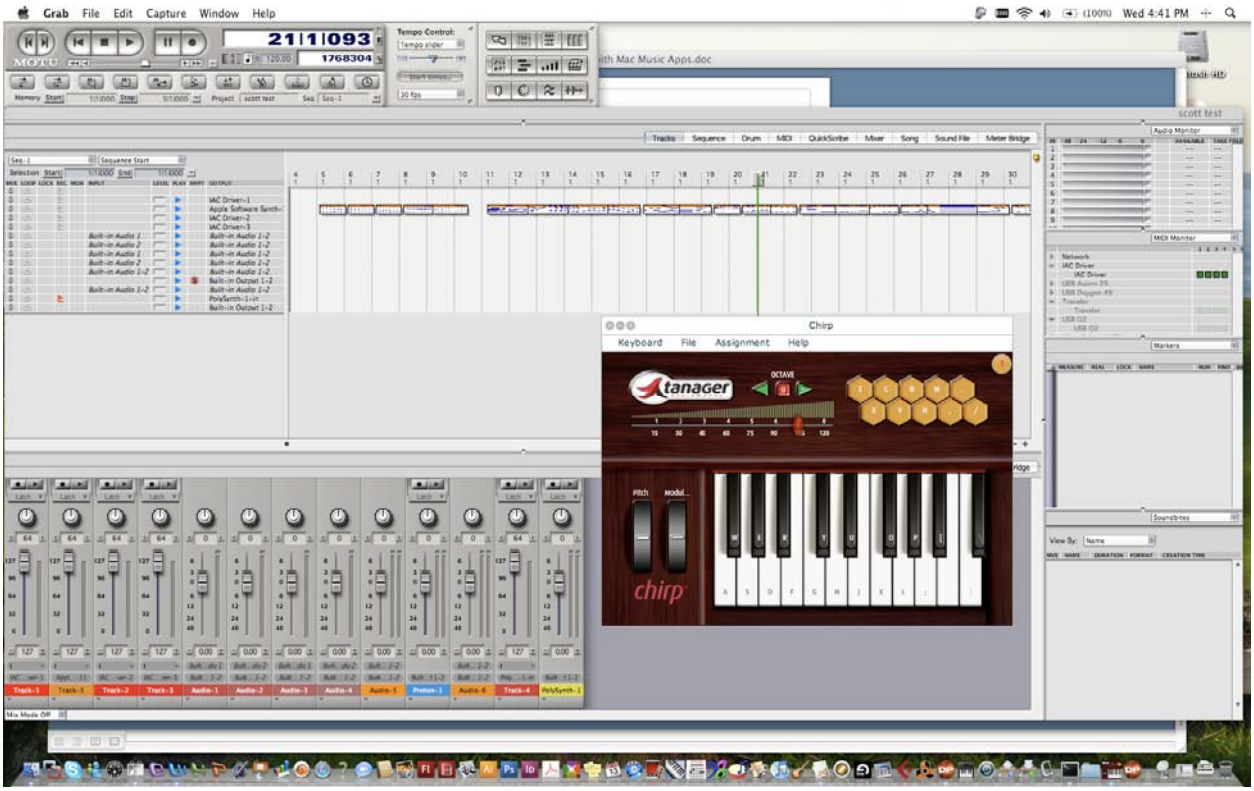
Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

Digital Performer

When you first load Chirp on a Mac, you'll hear a grand piano sound when you play it &endash; this is coming from the Mac's built-in Quicktime Music Synthesizer. To use Chirp in Digital Performer, you need to tell the Mac to look at a specific MIDI Port which is mapped to see Chirp's output &endash; we use the Mac's IAC Driver to do this. The IAC Driver setup can be found in the Audio-MIDI Setup utility found under the Utilities Folder in the Applications Folder. Load Audio-MIDI setup, click on the MIDI tab, and double click the IAC Driver icon. Make sure "r;Device is online" is checked. Chirp will be attached to Bus 1 by default. (IAC stands for "r;Inter-Application Communications", and allows one MIDI application (such as Chirp) talk to other applications (such as GarageBand, Logic Pro and Digital Performer.)

In Chirp's MIDI Setup dialog (File -> MIDI Setup) make sure the Output Device is set to Bus 1 (matching what the IAC Driver's virtual MIDI port was named) and the Output Channel is on Channel 1. Do the same for the Input Channel settings.

Load Digital Performer. The IAC Driver should be shown in Digital Performer as a MIDI input. Create a MIDI Track and an Instrument Track. Load any of the supplied soft synths on the Instrument track and make sure the output is set for the appropriate audio device. On the MIDI Track, set the output to the name of the soft synth you just loaded. If the Multi Record mode is off (unchecked and found in the Studio Menu) then DP will listen on all MIDI channels for track input &endash; Chirp should play the soft synth sound at this point.



Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

Project 5 V2

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Project 5. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

Load Project 5. Go to the **Options** menu, and select **MIDI Devices** at the top of the list. If Chirp installed correctly, **Chirp MIDI In** should be listed as an **Available MIDI Input Device** in the 1st box. Click on the small right arrow to add it to the **Active MIDI Input**

Ports. Do the same with **Chirp MIDI Output** in the 2nd dialog box if you wish to "see" notes being played on the Chirp keyboard driven from Project 5.

Load a MIDI track and select **Add Instrument** on the track controls pane to the left. Load a sound, and play Chirp - you should hear that sound playing.

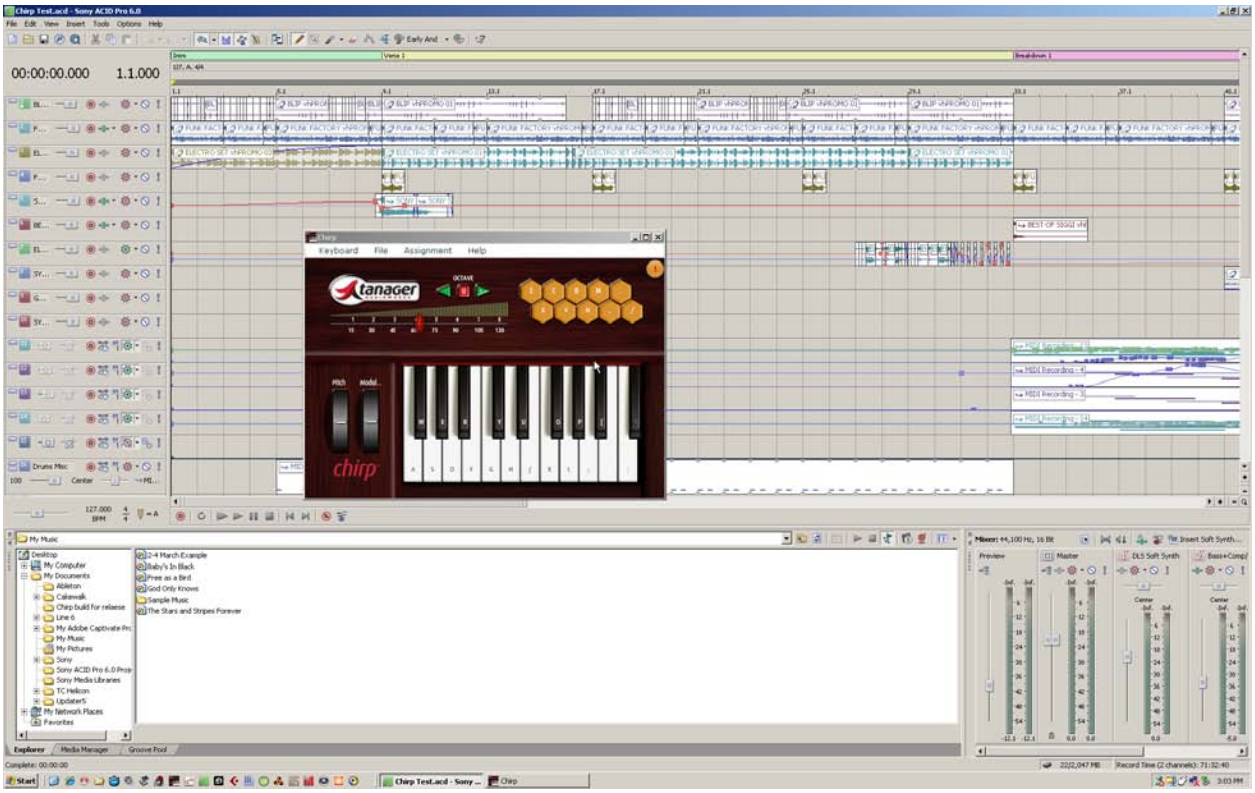
Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.

ACID Pro

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in ACID Pro. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

Load ACID Pro. Select **Options** then **Preferences**. Click on the **MIDI** tab and you should see **Chirp MIDI In** and **Chirp MIDI out** in the respective MIDI In/Out dialog boxes - make sure these are checked. Click **OK** and select **Insert** then **Soft Synth**. Choose any soft synth in the list. Make sure the MIDI Input in the Track Controls area of the Soft Synth track is set to **Chirp MIDI In**, and the **MIDI Channel** setting further down that dialog box is set to either **ALL** or the specific channel you set up in Chirp as an output channel Make sure you have a preset sound loaded in your soft synth. Chirp should play the sound now.

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.



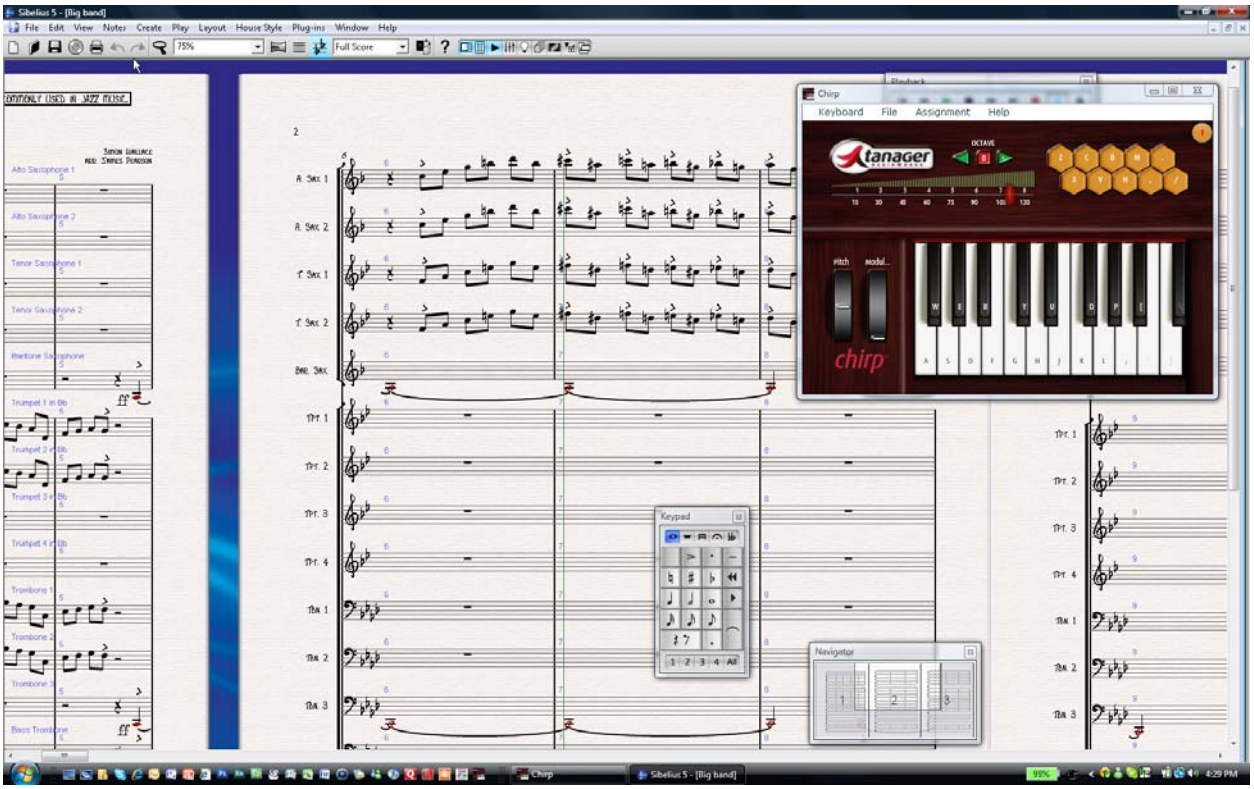
Notation

Sibelius

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Sibelius. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

Load Sibelius. Click on **File**, then select **Preferences**. Select Input Devices - if Chirp installed properly then **Chirp MIDI In** should be listed as a possible input device. Check the box in front of it and then click OK. Chirp should produce note data when played.

Remember to click on Chirp to get the keyboard active - or set Chirp to "**Send Notes Always**" in the **Keyboard** -> **Preferences** menu to allow Chirp to send MIDI data when is not the focused application.



Encore

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in Encore. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 1 (or whatever you'd like.)

Load Encore. Go to the **Setup** menu, and select MIDI Setup. You will see MIDI Out and MIDI In setup dialogs there - if Chirp was installed properly it should show up in both drop-down menus. Select **Chirp MIDI In i**n the MIDI In setup section. Select **Chirp MIDI Out** if you wish to see note data played by Encore on the Chirp.

Samplers and Soft Synths

GigaStudio

If Chirp was installed properly it should appear in the list of possible MIDI inputs and outputs in GigaStudio. In Chirp, select **File** then **MIDI Setup**. Set the **Output Device** to **Chirp MIDI Out**. Set the output channel to 2 (we noticed on out setup that the Chirp MIDI output channel was linked to the Instruments in the MIDI Mixer offset by -1. So - the first Instrument track set up in Giga wouldn't play, but when we set an Instrument up in the 2nd space, we could play it with Chirp on MIDI Channel 1. An Instrument on the 3rd space worked with Chirp Channel 2, and so on.)

Load GigaStudio. In the File menu, select System Settings. At the bottom of this dialog box is the MIDI Port Configuration setup controls. Choose Chirp MIDI In from the list in the drop-down menu in one of the empty MIDI Input assignments. Hit OK. Load an instrument in the 2nd position and play Chirp - you should hear the instrument playing.


Chirp
Keyboard
File
Assignment
Help
OCTAVE
Pitch
chirp

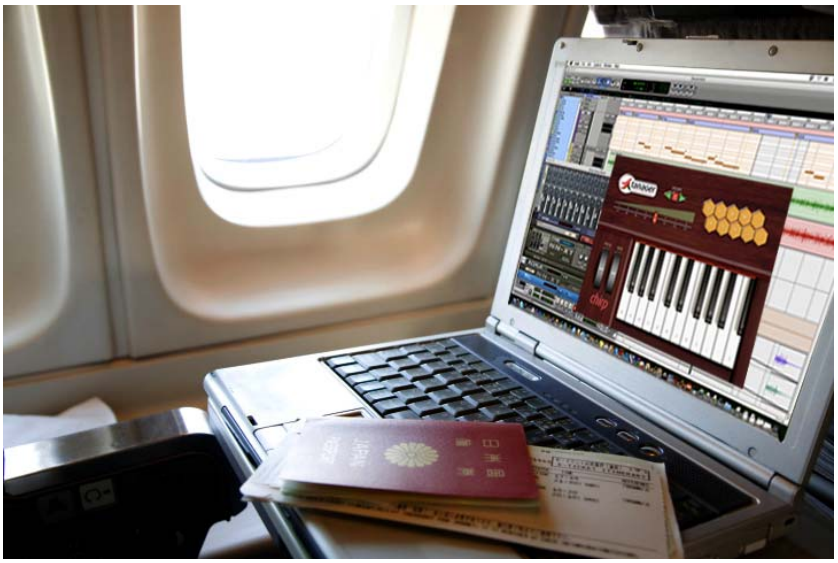
Applications

Ideas for Using Chirp

While you will likely not play your next piano recital using Chirp, you can utilize it effectively for creating all kinds of MIDI parts. Besides chord entry, we often use Chirp to just enter any MIDI notes in time and note duration with the part we are trying to create, and then use the DAW Piano Roll view to drag the notes in place. We find this method quite effective, especially in creating string and orchestral parts where the biggest challenge in a cramped space (like and airplane seat) is just getting MIDI data into the DAW in time.

In notation tools, we make use of the chord entry ability in Chirp. Most notation entry is step-oriented, and this allows us to quickly enter chord parts.

We will regularly update this manual with ideas our users supply us!



Troubleshooting

Technical Support for Chirp

We want to be absolutely sure that you get the most out of Chirp, which is why we went to the effort of providing setup instructions for the popular music applications. But - as anybody who has ever fooled around with music and MIDI hardware & software knows, this stuff can be tricky and downright frustrating at times! MIDI and other drivers don't always play nice together, and the sheer number of variables involved with these computer platforms, installed hardware and software can cause all kinds of problems. If you followed the instructions in this manual and still are having problems getting your setup to work, please contact us! We have set up 3 methods for getting the support you need.

- First, consult the Tanager AudioWorks KnowledgeBase at http://www.tanageraudioworks.com/Support/ . We collect all issues and reply there so all users have visibility.
- If you can't find the answers to your questions there - contact us using the Tech Support form at the bottom of the page on http://www.tanageraudioworks.com/Support/.
- The Tanager AudioWorks Community is our discussion forum - it is possible other users may have had similar issues and posted it there. Click on this link to get there - http://discussion.tanageraudioworks.com/index.php
- EMAIL us directly at support@tanageraudioworks.com.

Top Issues FAQ

Here are some issues that crop up from time to time with our Chirp customers.

Platform	Issue	Solution
Windows	Chirp not operating properly after it has been installed.	Make sure you have installed the Microsoft .NET Framework (V1.1 or later). This is available from the Microsoft .NET Framework Solutions Center page at http://support.microsoft.com/?scid=ph;en-us;548
Mac	Cannot get the "Send Notes Always" feature to work properly.	Under **Universal Access** in the **System Preferences** menu on your Mac, be sure to check the box at the bottom of the dialog that says **Enable access for assistive devices**. This option is required in order for the **Send Notes Always** capability in Chirp

		to operate properly.
Windows + Cubase 4	Notes end up "bunched up" at the start of the track after you record a MIDI or Instrument track.	To fix this, you need to go to the **Devices** -> **Device Setup** menu; at the bottom of the list of MIDI input and output ports, you'll need to check the box that says " **Use System Timestamp for Windows MIDI Inputs"** as shown below. Steinberg places this menu item there to overcome some issues with the DirectSound drivers associated with MIDI in Windows. This link http://knowledgebase.steinberg.de/95_1.html can tell you more.
Windows 64 Bit Vista	Chirp will not operate.	Chirp is not currently compatible with the 64 bit version of Vista.

Appendix

MIDI Note Values for Drum Sounds &endash; General MIDI Standard

Midi Note	Note Name	GM Drum Sound
35	B0	Acoustic Kick Drum
36	C1	Kick Drum 1
37	C#1	Side Stick/Rim Shot
38	D1	Acoustic Snare
39	D#1	Hand Clap
40	E1	Electric Snare
41	F1	Low Floor Tom
42	F#1	Closed Hi-Hat
43	G1	High Floor Tom
44	G#1	Pedal Hi-Hat
45	A1	Low Tom
46	A#1	Open Hi-Hat
47	B1	Low-Mid Tom
48	C2	Hi-Mid Tom
49	C#2	Crash Cymbal 1
50	D2	High Tom
51	D#2	Ride Cymbal 1
52	E2	China Cymbal
53	F2	Ride Cymbal Bell
54	F#2	Tambourine
55	G2	Splash Cymbal
56	G#2	Cowbell
57	A2	Crash Cymbal 2
58	A#2	Vibraslap
59	B2	Ride Cymbal 2
60	C3	Hi Bongo
61	C#3	Low Bongo
62	D3	Mute Hi Conga
63	D#3	Open Hi Conga
64	E3	Low Conga
65	F3	High Timbale
66	F#3	Low Timbale
67	G3	High Agogo
68	G#3	Low Agogo
69	A3	Cabasa
70	A#3	Maracas

71	B3	Short Whistle
72	C4	Long Whistle
73	C#4	Short Guiro
74	D4	Long Guiro
75	D#4	Claves
76	E4	Hi Wood Block
77	F4	Low Wood Block
78	F#4	Mute Cuica
79	G4	Open Cuica
80	G#4	Mute Triangle
81	A4	Open Triangle

MIDI Note Values for Drum Sounds &endash; General MIDI Standard

Group	Program #	Sound (Patch)
Pianos	1	**Acoustic Grand Piano**
	2	**Bright Acoustic Piano**
	3	**Electric Grand Piano**
	4	**Honky-Tonk Piano**
	5	**Electric Piano 1**
	6	**Electric Piano 2**
	7	**Harpsicord**
	8	**Clavinet**
Chromatic Percussion	9	**Celesta**
	10	**Glockenspiel**
	11	**Music Box**
	12	**Vibraphone**
	13	**Marimba**
	14	**Xylophone**
	15	**Tubular Bells**
	16	**Dulcimer**
Organs	17	**Drawbar Organ**
	18	**Percussive Organ**
	19	**Rock Organ**
	20	**Church Organ**
	21	**Reed Organ**
	22	**Accordian**
	23	**Harmonica**
	24	**Tango Accordian**
Guitars	25	**Acoustic Guitar &endash; Nylon**

		Strings
	26	**Acoustic Guitar &endash; Steel Strings**
	27	**Electric Guitar &endash; Jazz**
	28	**Electric Guitar &endash; Clean**
	29	**Electric Guitar &endash; Muted**
	30	**Overdriven Guitar**
	31	**Distortion Guitar**
	32	**Guitar Harmonics**
Basses	33	**Acoustic Bass**
	34	**Electric Bass &endash; Finger**
	35	**Electric Bass &endash; Picked**
	36	**Fretless Bass**
	37	**Slap Bass 1**
	38	**Slap Bass 2**
	39	**Synth Bass 1**
	40	**Synth Bass 2**
Strings	41	**Violin**
	42	**Viola**
	43	**Cello**
	44	**Contrabass**
	45	**Tremelo Strings**
	46	**Pizzicato Strings**
	47	**Orchestral Harp**
	48	**Timpani**
Ensemble	49	**String Ensemble 1**
	50	**String Ensemble 2**
	51	**Synth Strings 1**
	52	**Synth Strings 2**
	53	**Choir Aahs**
	54	**Voice Oohs**
	55	**Synth Voice**
	56	**Orchestra Hit**
Brass	57	**Trumpet**
	58	**Trombone**
	59	**Tuba**
	60	**Muted Trumpet**
	61	**French Horn**
	62	**Brass Section**
	63	**Synth Brass 1**
	64	**Synth Brass 2**
Reed	65	**Sprano Sax**

	66	**Alto Sax**
	67	**Tenor Sax**
	68	**Baritone Sax**
	69	**Oboe**
	70	**English Horn**
	71	**Bassoon**
Pipe	72	**Clarinet**
	73	**Piccolo**
	74	**Flute**
	75	**Recorder**
	76	**Pan Flute**
	77	**Blown Bottle**
	78	**Skakuhachi**
	79	**Whistle**
	80	**Ocarina**

Group	Program #	Sound (Patch)
Synth Leads	81	**Lead 1 - Square**
	82	**Lead 2 &endash; Sawtooth**
	83	**Lead 3 &endash; Calliope**
	84	**Lead 4 &endash; Chiff**
	85	**Lead 5 &endash; Charang**
	86	**Lead 6 &endash; Voice**
	87	**Lead 7 &endash; Fifths**
	88	**Lead 8 &endash; Bass + Lead**
Synth Pads	89	**Pad 1 &endash; New Age**
	90	**Pad 2 &endash; Warm**
	91	**Pad 3 &endash; Polysynth**
	92	**Pad 4 &endash; Choir**
	93	**Pad 5 &endash; Bowed**
	94	**Pad 6 &endash; Metallic**
	95	**Pad 7 &endash; Halo**
	96	**Pad 8 - Sweep**
Synth Effects	97	**FX 1 &endash; Rain**
	98	**FX 2 &endash; Soundtrack**
	99	**FX 3 &endash; Crystal**
	100	**FX 4 &endash; Atmosphere**
	101	**FX 5 &endash; Brightness**
	102	**FX 6 &endash; Goblins**
	103	**FX 7 &endash; Echoes**

	104	**FX 8 &endash; Sci-Fi**
Ethnic	105	**Sitar**
	106	**Banjo**
	107	**Shamisen**
	108	**Koto**
	109	**Kalimba**
	110	**Bagpipe**
	111	**Fiddle**
	112	**Shanai**
Percussive	113	**Tinkle Bell**
	114	**Agogo**
	115	**Steel Drums**
	116	**Woodblock**
	117	**Taiko Drum**
	118	**Melodic Drum**
	119	**Synth Drum**
	120	**Reverse Cymbal**
Sound Effects	121	**Guitar Fret Noise**
	122	**Breath Noise**
	123	**Seashore**
	124	**Bird Tweet**
	125	**Telephone Ring**
	126	**Helicopter**
	127	**Applause**
	128	**Gunshot**

MIDI Note Values for Continuous Controllers - General MIDI Standard

	Controller #	Controller Name	Notes
High Resolution Continuous Controllers (MSB and LSB Pairs)	0	**Bank Select Coarse (MSB)**	**Switches between groups of sound banks in a synth or module.**
	1	**Modulation Wheel Coarse (MSB)**	**Usually adds some sort of vibrato effect to the note being played.**
	2	**Breath Control**	
	3	**Undefined**	
	4	**Foot Controller**	**Can be used to control a variety of effects such as an**

		organ's swell pedal.
5	**Portamento Time**	**Portamento is defined as the time it takes for the pitch of a note to slide up or down to the pitch of another note.**
6	**Data Entry**	**Provides the ability to send a RPN or NRPN data value to a synth or sound module.**
7	**Channel Volume**	**Controls the main volume of a MIDI channel.**
8	**Balance**	**Adjusts the volume of stereo elements of a sound without affecting the Pan position.**
9	**Undefined**	
10	**Pan**	**Pans a mono sound between left (0) and right (127). 64 is the Center position.**
11	**Expression**	**Acts as a percentage of the volume controller (#7) &endash; controls.**
12	**Effect Control 1**	**Operation depends on the device or soft synth being controlled.**
13	**Effect Control 2**	**Operation depends on the device or soft synth being controlled.**
14	**Undefined**	
15	**Undefined**	
16	**General Purpose Controller 1**	**Operation depends on the device or soft synth being controlled.**
17	**General Purpose Controller 2**	**Operation depends on the device or soft synth being controlled.**
18	**General Purpose Controller 3**	**Operation depends on the device or soft synth being controlled.**
19	**General Purpose Controller 4**	**Operation depends on the device or soft synth being controlled.**
20	**Undefined**	
21	**Undefined**	
22	**Undefined**	
23	**Undefined**	
24	**Undefined**	

25	**Undefined**	
26	**Undefined**	
27	**Undefined**	
28	**Undefined**	
29	**Undefined**	
30	**Undefined**	
31	**Undefined**	
32	**Bank Select Fine (LSB)**	**Switches between groups of sound banks in a synth or module.**
33	**Modulation Wheel Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
34	**Breath Control Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
35	**Undefined**	
36	**Foot Controller Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
37	**Portamento Time Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
38	**Data Entry**	
39	**Channel Volume Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
40	**Balance Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
41	**Undefined**	
42	**Pan Fine (LSB)**	**Adds more definition to the main controller value for this parameter.**
43	**Expression**	**Adds more definition to the main controller value for this parameter.**
44	**Effect Control 1**	**Adds more definition to the main controller value for this parameter.**
45	**Effect Control 2**	**Adds more definition to the main controller value for this parameter.**
46	**Undefined**	

	47	**Undefined**	
	48	**General Purpose Controller 1**	**Adds more definition to the main controller value for this parameter.**
	49	**General Purpose Controller 2**	**Adds more definition to the main controller value for this parameter.**
	50	**General Purpose Controller 3**	**Adds more definition to the main controller value for this parameter.**
	51	**General Purpose Controller 4**	**Adds more definition to the main controller value for this parameter.**
Low Resolution Continuous Controllers	52	**Undefined**	
	53	**Undefined**	
	54	**Undefined**	
	55	**Undefined**	
	56	**Undefined**	
	57	**Undefined**	
	58	**Undefined**	
	59	**Undefined**	
	60	**Undefined**	
	61	**Undefined**	
	62	**Undefined**	
	63	**Undefined**	
	64	**Damper Pedal On/Off (Sustain)**	
	65	**Portamento On/Off**	
	66	**Sustenuto On/Off**	
	67	**Soft Pedal On/Off**	
	68	**Legato Footswitch On/Off**	
	69	**Hold 2**	
	70	**Sound Controller 1**	
	71	**Sound Controller 2**	
	72	**Sound Controller 3**	
	73	**Sound Controller 4**	
	74	**Sound Controller 5**	
	75	**Sound Controller 6**	
	76	**Sound Controller 7**	

Low Resolution Continuous Controllers	77	**Sound Controller 8**
	78	**Sound Controller 9**
	79	**Sound Controller 10**
	80	**General Purpose Controller 5**
	81	**General Purpose Controller 6**
	82	**General Purpose Controller 7**
	83	**General Purpose Controller 8**
	84	**Portamento Control**
	85	**Undefined**
	86	**Undefined**
	87	**Undefined**
	88	**Undefined**
	89	**Undefined**
	90	**Undefined**
	91	**Reverb Send Level**
	92	**Effects 2 Depth**
	93	**Chorus Send Level**
	94	**Effects 4 Depth**
	95	**Effects 5 Depth**
	96	**Data Entry +1**
	97	**Data Entry -1**
	98	**(NRPN) Non-Registered Parameter Number (LSB)**
	99	**(NRPN) Non-Registered Parameter Number (MSB)**
	100	**(RPN) Registered Parameter Number (LSB)**
	101	**(RPN) Registered Parameter Number (MSB)**
	102	**Undefined**
	103	**Undefined**
	104	**Undefined**
	105	**Undefined**
	106	**Undefined**
	107	**Undefined**
	108	**Undefined**
	109	**Undefined**
	110	**Undefined**
	111	**Undefined**
	112	**Undefined**
	113	**Undefined**

114	**Undefined**
115	**Undefined**
116	**Undefined**
117	**Undefined**
118	**Undefined**
119	**Undefined**
120	**All Sound Off**
121	**Reset All Controllers**
122	**Local Control On/Off**
123	**All Notes Off**
124	**Omni Mode Off + All Notes Off**
125	**Omni Mode On+ All Notes Off**
126	**Poly Mode On/Off + All Notes Off**
127	**Poly Mode Off + All Notes Off**

MIDI Loopback Drivers

In order to communicate with other software applications on your system, Chirp requires a piece of software called a MIDI Loopback driver. This is software that routes incoming and outgoing MIDI messages to different destinations on your machine, either software ports or external hardware devices.

Macintosh users do not need to install anything, OSX comes with a built in loopback driver called "IAC" (standing for Inter-Application Communication). It simply needs to be turned on and named in Audio/MIDI setup - found in Applications/Utilities. There are more detailed instructions in the Chirp Installation section.

Microsoft Windows users need to have a MIDI Loopback driver installed on their system. There are several freeware and shareware options, as well as more expensive versions. We have tested Chirp on Windows with the Maple driver by Jeff Hurchalla; others available are LoopBe and MIDI Yoke.

To use any of these other drivers simply install them and select the driver in Chirp File>MIDI Settings.

Links to drivers:

Maple: http://www.hurchalla.com/Maple_driver.html
LoopBe: http://www.nerds.de/en/loopbe1.html
MIDI Yoke: http://www.midiox.com/index.htm?http://www.midiox.com/myoke.htm

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