MANUAL

GOFRILLER
CELLO

Created by Giorgio Tommasini,
Stefano Lucato & Gary Garritan

Designed for
Microsoft®
Windows®XP

Mac

VSTi   DXi   AU   RTAS   FINALE 2007+

POWERED BY
KONTAKT 2
SOFTWARE TECHNOLOGY
FROM
N I

The Complete Virtuoso's Manual to

Gofriller Solo Cello

- created by Giorgio Tommasini, Stefano Lucato and Gary Garritan -

This guide written by: Gary Garritan and Giorgio Tommasini

Produced by:	Gary Garritan, Giorgio Tommasini & Stefano Lucato
Programming:	Giorgio Tommasini & Stefano Lucato
Script:	Josef Natterer, Giorgio Tommasini & Stefano Lucato
Recorded and Edited by:	Gary Garritan
Graphics:	James Mireau, Michael Sandberg, Gary Garritan
Played by:	Rolf Gjelsten

Visit us on the World Wide Web at: **www.garritan.com**

Welcome to the Gofriller Solo Cello

Gofriller cellos are regarded by professional cellists as one of the best cellos ever made and are highly sought after. The Gofriller cello is an instrument of extraordinary beauty physically as well as sonicly.

Through innovative sampling methods, this library faithfully captures the sound of a Gofriller Cello that was made at the turn of the eighteenth century. Rather than imitate the physical craftsmanship with wood and string, we have used the latest technology to not only record and capture its sounds, but to also make a playable software musical instrument. This has been made possible with technologies developed by Giorgio Tommasini and Stefano Lucato.

Just as real Gofriller Cellos are so well made that they are considered the best of their type, we wanted to produce a sample instrument library that would be the best cello library ever made. The finest instruments are the ones that will allow musicians to express themselves best, whether they are three hundred years old or in the form of today's virtual instruments.

Gary Garritan

Forward

WHY PLAY A "PROGRAM" WHEN YOU CAN PLAY AN INSTRUMENT? - By Craig Anderton

Few, if any, would deny that acoustic instruments are the standard by which electronic instruments are judged. But why? And what does this have to do with the Gofriller Cello?

Acoustic instruments offer a unique level of expressiveness because their design allows for interesting techniques (articulations) — the ability of the player to create nuanced changes in the sound. Think of a drum: There's a different sound quality depending on whether you hit the center or rim of the drum. The angle of a pick on a guitar string changes the sound, and you can blow into a saxophone to the point where you overdrive the reed. These techniques are like "instructions" that tell the instrument how to respond.

Stringed instruments allow for huge variations in playing techniques — so many, in fact, they have names: marcato, pizzicato, arco, and so on. Each represents a unique way the player interacts with the instrument to create a particular sound. Couple these playing articulations with dynamics, vibrato, and all the elements of the acoustic instrument's repertoire, and the result is a supremely expressive instrument.

TECHNOLOGY'S ANSWER:

With sample-based instruments, technology was able to pretty much nail the sound of an acoustic instrument, but with one major limitation: A sample is the sonic equivalent of a photograph, not a movie. It essentially captures the sound of an instrument at a specific point in time, not a sound with a variety of expressive gestures. So you could capture, for example, a cello note with vibrato; but if you wanted to sample a cello note without vibrato, that would require a different sample. And if you added vibrato electronically as a workaround, it never had the same organic, flowing quality of human-created vibrato.

Samplers have traditionally handled dynamics by recording an instrument at several different levels, layering them on a keyboard, then tying each layer to the keyboard's velocity control signals so that hitting a key harder plays back a more dynamic sample. Many string libraries even include libraries of articulations, which you can "insert" to increase the expressive options.

But these are sort of like "freeze-dried" articulations because they take just one part of technique and apply it to the sound. Real technique is a smooth continuum of playing that coaxes emotion out of the instrument. In a way, samplers require a player to be more of a programmer, and know what sound is expected in advance so its various articulations can be available when needed. It's annoying to search through a "library of techniques," look for a specific articulation, and apply it — rather than just play it. A real player just plays, by following the instructions on a score and performing in real time.

So it's no wonder that some people find the sound of electronic instruments vaguely unsatisfying, despite their reasonably realistic sound; they rarely allow the same freedom of expressiveness as acoustic instruments. Fortunately, it doesn't have to be that way.

The Gofriller Solo Cello Approach

Playing the Gofriller Solo Cello comes as close to the experience of playing a real cello as current technology allows, as it delivers the kind of expressiveness that electronic musicians have found lacking in sampled sounds since the debut of that technology. The sound quality is, by itself, wonderful. But it becomes that much more wonderful in the hands of someone who can impart expressiveness to those sounds.

Based on the same proven technology used in Garritan's Stradivari violin software instrument, it's important to recognize that the Gofriller Solo Cello is indeed an instrument, so you'll need to practice what makes it special. If you're looking for something where you can just push down keys and get sounds, that's fine too…but you'll be happier looking elsewhere, because this isn't the instrument for you.

The Gofriller Solo Cello is for someone who's willing to move the mod wheel for vibrato, rock a footpedal for expression, take advantage of aftertouch, and exploit velocity to add crescendos, change the plucking style, alter the sound's attack, and much more. Using these gestures is the key to adding true expressiveness to the sound.

But there's another angle, too: It's more fun to really play an instrument. There's more of a physical connection between what you do and what comes out of the loudspeakers. If your playing moves you, you can translate movements into changes in the sound. And in addition to the "fun factor," take inspiration into account as well. When you want to "push" the sound further, you can actually push or move something physical to make that happen. Forget about layering tracks with different techniques, then trying to force them together to make the sound of one instrument; it's a lot better just to have one instrument you can play like an instrument.

The Gofriller Solo Cello is a software-based instrument that has been designed with options that let you make better, more inspiring, more interesting sounds. Take the time to learn, and practice, the Gofriller Solo Cello's exceptionally useful articulation options — your music will thank you for it.

CRAIG ANDERTON

License Agreement

Please read the terms of the following software licensing agreement before using this sample collection. By installing and loading this product you acknowledge that you have read this license agreement, understand the agreement and agree to its terms and conditions. If you do not agree to these terms, do not install or use the sounds contained herein. This is the complete agreement between you and Garritan Corporation that supersedes any other representations or prior agreements, whether oral or in writing.

An important thing to understand is that YOU ARE OBTAINING A LICENSE FOR YOUR USE ONLY – THEY DO NOT BELONG TO YOU. The sounds, samples and programming in the Gofriller Solo Cello™ library remain the sole property of Garritan Corporation and are licensed (not sold) to you.

What You Can Do

You can use these sounds in music productions, public performances, and other reasonable musical purposes within musical compositions. You can use these sounds in your own musical compositions as much as you like without any need to pay Garritan Corporation or obtain further permission. If you do use these sounds, we ask that in any written materials or credits accompanying your music that utilizes material from Gofriller Solo Cello (CD booklet, film credits, etc), that you include the following courtesy credits: "Solo cello samples used in this recording are from the Garritan Gofriller Solo Cello™", or a similar credit where practicable.

What You Cannot Do

The enclosed sounds cannot be re-used in any other commercial sample library or any competitive product. You are absolutely forbidden to duplicate, copy, distribute, transfer, upload or download, trade, loan, reissue or resell this library or any of the contents in any way to anyone. You cannot redistribute them through an archive, nor a collection, nor through the Internet, nor binaries groups, nor newsgroup, nor any type of removable media nor through a network. The sounds and samples contained herein cannot be edited, modified, digitally altered, re-synthesized or manipulated without direct written consent of Garritan Corporation.

A right to use Gofriller Solo Cello is granted to the original end-user only, and this license is not transferable unless there is written consent of Garritan Corporation and payment of an additional fee. The sounds of the Gofriller Solo Cello will only work with Native Instruments Kontakt 2 and will not work with any other sampler. Licensor will not be responsible if the content of this disc does not fit the particular purpose of the Licensee. Please make sure before ordering this item that it meets your needs. Information contained herein is subject to change without notice and does not represent a commitment on the part of Garritan Corporation. The sounds are licensed "as is" without warranties of any kind. Garritan Corporation, nor any agent or distributor can be held responsible for any direct or indirect or consequential loss arising from the use of this product in whatever form.

The Gofriller Solo Cello library may not be returned for any reason other than manufacturing defects. The terms of this license shall be construed in accordance with the substantive laws of the United States of America and/or the State of New York. U.S.A. All product and company names are ™ or ® trademarks of their respective owners. Our support is limited to the samples themselves. All support with respect to Kontakt must be directed to Native Instruments. The user agrees to read the manual before seeking tech support.

The RECOMMENDED REQUIREMENTS for the Sound Library is 1 GB of free hard disk space, DVD Drive, Windows XP (Pentium 4 /Athlon 2.4+ GHz or better is recommended), Mac OS 10.2.8 or higher (2.0 GHz or better is the minimum) G5 2+ GHz or better is recommended. Standard MIDI controllers, i.e. a Pitch wheel, a Mod Wheel, Channel Aftertouch and a Sustain Pedal. An EXPRESSION PEDAL is also required. To play the cello, we recommend a minimum of 1 GB of RAM. Your system must meet or exceed these requirements. Please also observe the system requirements of your host application.

Outstanding Features of the Gofriller Solo Cello

The Gofriller Solo Cello continues in the tradition of the Stradivari Violin library of setting a new standard in sample libraries.

QUALITY

- One of the very finest of cellos was sampled; a hand-made Gofriller built nearly 300 years ago.
- Gofriller instruments are world renown for their extraordinary, unique sound.
- High-resolution 24bit state-of-the-art recording for the utmost accuracy and audio fidelity.

INNOVATION

- A truly "playable" library using exclusive processes.
- Patent-pending Harmonic Alignment process.
- Advanced scripting and convolution processes.
- Patent-pending Modal Body Resonance process.

PLAYABILITY

- Unique virtuosity and versatility - Advanced programming makes this a revolutionary and truly "playable" library that is responsive to the player.
- Real-time shaping of sound providing a virtually infinite number of articulations and playing techniques. Play staccato, arco, trills, tremolo, marcato, martelè and much more in real-time. The amount of musical control is unmatched by any other sample library.
- Real-time shaping of dynamics providing a virtually infinite number of levels, using real samples, which retain their original timbre and nuances, instead of a typical single filtered layer that mimics different dynamics.
- Real-time control of vibrato. Start from a non-vibrato sample, control when the vibrato starts, add progressively increasing vibrato, increase the vibrato rate, and/or end with non-vibrato immediately before the next note.
- Key Switching allows for easy and quick selection of various string articulations at the touch of a key.
- Release Triggers provide the natural release of the bow and body resonances.
- Flexible enough to play phrases with runs, scales, pickups, arpeggios, grace notes, turns, and other ornaments with individual notes - no pitch-shifting of played passages are necessary.

What This Package Includes

- 1 Disc containing the installation for the Gofriller Solo Cello Sample Library.
- Native Instruments Kontakt Player 2.
- The Gofriller Solo Cello User's Guide.

Compatible Platforms

Kontakt Player 2 runs on the Mac and PC operating systems. It can run as as a standalone or VST or DXi and RTAS or Audio Unit plugin, and is compatible with virtually all sequencers and hosts. In addition it can work with some notation programs.

System Requirements

- **Hard Drive Space:** 1 GB of free hard disk space.
- **Additional Drives:** DVD Drive required to install.
- **Processor & Operating System:** On PC, Windows XP, Pentium 4 /Athlon 2.4+ GHz or better is recommended. On Mac, OS 10.2.8 or higher, G4 2.0 GHz or better including Mac Intel; G5 2+ GHz or faster is recommended. Mac Intel support will be available in an update on the www. garritan.com website. The Kontakt Player 2 audio engine is designed to make use of the processing power of your computer's CPU.

> NOTE: The powerful and complex algorithms of the Kontakt Player2 engine work best on faster CPUs.

- **RAM:** A minimum of 1 GB of RAM is required to play the cello.
- **Soundcard:** A low latency audio card with Asio drivers is required compatible with Kontakt Player 2. The soundcard should allow for a buffer size of 256 (optimal) or 512 (less satisfactory but more latency).
- **MIDI:** A MIDI interface may be required if you are using a MIDI keyboard, another MIDI controller or a sequencer that requires it. Some keyboards use USB.
- **KEYBOARD REQUIREMENTS:**
    - A five, preferably six-octave keyboard, mapped or mappable from C1 to C6 or more.
    - A mod wheel, mapped to CC #1 (modulation) to control transition from senza vibrato to con vibrato.
    - Channel aftertouch, mapped to Aftertouch to control vibrato rate.
    - A pitch wheel to control pitch.
    - An expression pedal, mapped to CC#11 (expression) to control crossfading among the dynamic layers.
    - A sustain pedal to activate legato with bow change.

> IMPORTANT NOTE: Please note that the presence of all the above controllers is a requirement for the proper functioning of the instrument.

Installing the Gofriller Solo Cello Library

If this is your first Kontakt Player 2 product, then the Player will be installed with the library. If you already own a Kontakt Player 2 library, the Player installation will be skipped and just the library will be installed. To install the Gofriller Solo Cello library and Kontakt Player 2:

1. Check that your computer meets the minimum requirements to run Kontakt Player 2. Quit all applications.
2. Insert the DVD into the drive.
3. Use the Windows Explorer (PC) or Apple Finder (Mac) to open the installation DVD if does not open automatically.
4. Start the Installation Program by double clicking Setup.exe (Windows) or the Kontakt Player OSX Install icon (Mac). Follow the instructions on the screen to guide you through the installation procedure.

INSTALLED FOLDERS, FILES, AND LINKS

It may be easiest to install all listed components; if asked for a destination location, you can use the default location provided. On Windows the setup program will suggest C:\Program Files\Native Instruments\Kontakt Player 2 as the path for the destination folder. This folder contains the files required to operate the software. The default path is preferred but you may also choose another folder. If you do not choose a different program path during installation, links to Kontakt Player 2 and a ReadMe file are added to the Start menu under Programs\Native Instruments.

> IMPORTANT: Do not move the installation folder to another location!

VST, DXI, AUDIO UNITS AND RTAS PLUG-IN INSTALLATION

When you run the Kontakt Player installer, you can select which plug-in from the list of components you would like to install.
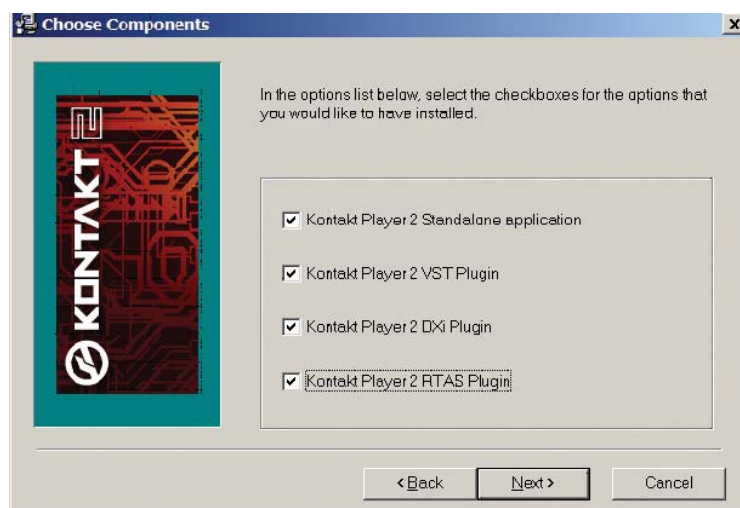
Make sure you always install the Standalone Application and the Library. Install the VST, Audio Units, DXi and RTAS options if you wish to use those particular plug-in formats.

For VST, you can choose to automatically search for the VST plug-in folder, or manually select the VST plug-in folder of your choice. Please select the option that best suits your installation requirements.

If you decide to install the VST plug-ins at a later date, simply copy the "KontaktPlayer2 VST.dll" from the VST folder of the installation folder into the VST plug-ins folder of the host program.

> NOTE: If the VST plug-ins are not visible in the Windows Explorer, select the Show All Files option. This option is located in the Explorer menu View —> Folder Options...on the View tab below Hidden files. Optionally, you can set up your host programs so that they all use the same VST plug-ins folder. The VST plug-in will be required if you will use the Garritan Studio application.

UPDATES

Be sure to check the Native Instruments web site for any possible Kontakt Player 2 updates that have occurred since the time your software was manufactured. Software is frequently updated and a more recent version may be available. Library updates may also be available at the www.garritan.com website. On these websites, you can get the latest updates to the Player and library, access tutorials, obtain technical support, get special upgrade pricing, and participate in the Garritan and Kontakt forums and more. An important part of the Library and Kontakt Player installation is the **Product Authorization**. After installation, it needs to be registered to make permanent use of the product.

Product Authorization - NI SERVICE CENTER

To authorize the library, you should use the Native Instruments Service Center application, which was installed along with the Kontakt Player 2 software. NI SERVICE CENTER is a user-friendly application that helps you to activate all NI products on your computer in one go. The NI SERVICE CENTER guides you through the easy-to-follow step by step activation process.

Product Authorization provides full registration and entitles you to make full use of this library and all related services. You are given a 30-day grace period for each library before registration is required, but it is recommended that you register as soon as possible. Information on the registration procedure is given below.

After installing the Library and Player, it will run in demo mode (also called a grace period) for 30 days. When you launch Kontakt Player 2, in the Browser you will see a little caution icon to the left of the library title. A yellow icon means the library is running in demo mode. After a library has been properly registered, the caution icon disappears entirely. A red icon means the demo period has expired and the library can no longer be used until it has been registered. The red icon may also appear if the system ID of the computer changes due to new hardware components (CPU, motherboard, etc.) If this occurs, the library will need to be re-registered. You get two installations with your product. Therefore you can use the library on both a laptop and a desktop, or on two separate computers.

The Update Manager provides access to the latest updates, hotfixes and more for your products. You can select the files you wish to download; view information regarding the update as well as manage all downloads.

INSTALLATION AND START

The NI Service Center takes care of the Gofriller Solo Cello registration as well as all NI product activations, including earlier NI products formerly authorized with the "Registration Tool". It can also be installed individually using an installer, which can be downloaded from the Native Instruments web site.

LAUNCHING SERVICE CENTER

The NI Service Center can be started from the following locations:

- Splash screen from your Garritan/ Native Instruments product which is in 30-days mode
- From the Help menu of the Garritan/Native Instruments product
- PC only: In the Windows start menu
- From the installation folder, e.g. C:\Program Files\Native Instruments\NI Service Center on PC and Applications\Native Instruments\NI Service Center on Mac.

> PLEASE NOTE: NI Service Center needs Administration rights to be able to activate your products.

ONLINE OPERATION

This section explains the operation of the NI Service Center if your computer has an internet connection. Read on in chapter "Offline Operation" if your computer has no internet connection.

Checking Internet Connection

NI Service Center checks for an existing Internet connection first. If your computer is currently not online, the connection box of your operating system is launched. While trying to connect, a circle is shown.

> NOTE: You may get a warning message from your internet firewall as soon as NI Service Center tries to connect to the internet. This is normal and good protection of your computer. Please allow NI Service Center to pass the firewall in order to proceed. We recommend to "always allow" the internet connection of NI Service Center, that way you do not have to confirm this every time you launch the Service Center.

If you still encounter problems with the detection of the internet connection please ensure that you use the latest version of NI Service Center. For more information and downloads please visit: www.native-instruments.com/servicecenter.info.

If NI Service Center fails to establish an internet connection, it offers three options to proceed:

- **Try connecting to the internet again:** Select this and press **Next** when you have established an internet connection.
- **Use a proxy server to connect to the internet:** NI Service Center may not be able to detect the proxy settings you have made for certain internet software. Therefore you have to enter your proxy server settings when required. Usually you can copy these settings from your standard web browser which you have set up for a proxy server.
- **Offline mode - continue without connection to the internet:** Select this option and press Next when your computer has no internet connection at all. In this case proceed with chapter "Offline Operation".

If your computer is part of a larger network (e.g. if you work in a company) a direct internet connection is usually not allowed, but a proxy server is used for security reasons. In this case you need to enter the settings for the proxy server to connect to our registration server. The settings in Service Center are the same as any web browser. You can easily copy them from the browsers proxy settings. The following settings are required: Host Name, the IP addres, and the Port Number.

> PLEASE NOTE: If you do not use a proxy server, please leave the fields blank and save the settings with the "Save Settings" button.

Service Center Update

As soon as a new NI Service Center version is available, it will be detected automatically and a download procedure will be initiated. The following dialogue will appear (shown right). Please click **Next** to proceed with the software download. Native Instruments strongly recommends using the latest client software version. A dialogue will show the status of the software download and when the update has been successfully downloaded.


After the latest software version has been downloaded successfully, NI Service Center has to be restarted. This can be done easily by clicking on the **Next** button within the appearing dialogue.

NI Login

Login page: This page allows you to create a new user account, or to enter an existing user name and password, if you already have a NI user account. When you create a user account at Native Instruments, the user name and password are automatically sent to the e-mail address you entered.

- *Yes, I already have an NI account:* Enter your existing user name and password here, if you already have an NI user account.
- *Remember Login:* Activate this check box to store the login permanently on your computer. Once it is stored you do not need to enter it when accessing protected areas of the NI web site from NI Service Center.
- *Forgot your password?* Click this link to receive an e-mail containing a new password. It also allows you to change your current password.
- *No, I do not have an NI account:* Choose this option, if you have no NI user account. A dialog to enter your details will open.
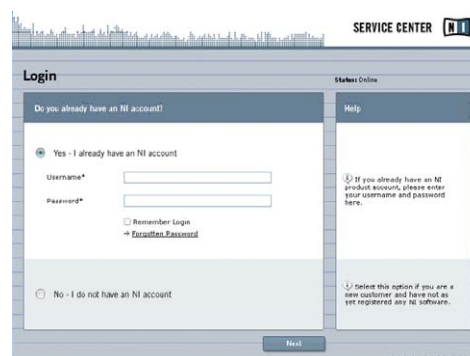
> PLEASE NOTE: Be sure to use a serial number of a Native Instruments product which has already been registered in your user profile. For security reasons there is no way to resend your current password to you. You always need to create a new one in case you have lost your current one.

Creating Your NI user account

This step is only necessary if you have no NI account yet. If you already have a user account, you can directly enter your **username** and **password** on the previous page (see Login page).

> NOTE: A user account is necessary for all types of product activation, update downloads, access to our web site content and technical support.

The registration view asks for your user name, your full e-mail address and your full name and address. These items are mandatory. Make sure to enter a complete and valid e-mail address as your user name, since your password will be sent to this e-mail address.

Optional: Forum Account - You can also sign up to the NI forum here and create a nickname under which you participate in the forums as well as a password for the forum login. Confirm your personal data by pressing **Next**.

> NOTE: Native Instruments uses a secure SSL connection with 128-bit encryption that meets current security standards to transmit your personal data over the web. Native Instruments will treat the information you provide confidentially. It will be used for registration purposes only and not be passed on to third parties.

Online Activation Assistant

The Activation Assistant allows you to activate your installed NI software.

Simply select the yet inactivated NI product(s) and click Next to start the activation process. The Online Activation Assistant will contact the NI registration server and the NI server will return with an activation key to unlock the product(s) permanently. After activating a product for the first time its serial number is allocated to your username in our registration database and you gain access to all product-specific content on the NI web site.

Offline Activation Assistant

If you do not have an internet connection on the computer in which the product is installed, choose **"Offline mode - Continue without connection to the internet"**. This message appears if no internet connection has been found. These are the steps to complete an Offline Activation:

- Choose Offline mode when there is no internet connection.
- Press the Export button to save the Activation Request File (HTML file) on a portable medium (e.g. USB stick, CD, etc)
- Transfer the Activation Request File to a computer with internet connection.
- Double click to open the HTML file in your standard web browser.

- Click the Send-button appearing in your web browser and follow the steps.
- On the website, choose either *"Yes – I do have an NI account"* and enter your login data or choose *"No – I don't have an NI account"* and register.

> NOTE: Your username and password will be sent to you per e-mail after creating a new user account. Keep in mind that the e-mail can only be delivered to you if you have entered a correct and complete e-mail address.

- At the end of the online process click the link to download the Activation Return File (.naf) and save it on your portable medium.
- Transfer the Activation Return File (.naf) to your audio computer.
- Go to the "Offline Activation Assistant" in NI Service Center and click the Import button to load the Activation Return File.

NI Service Center Options

Online Activation Assistant - This will launch the Activation Assistant for activating not yet activated products.

Update Manager - The Update Manager shows the available downloads for the installed Garritan and other Native Instruments products on your computer. In detail, the following information is displayed: Release Date, File size in Megabyte and Release Notes. The option **"Open Download folder after download"** allows it to automatically open the folder where the update has been downloaded to.To perform a download please click the check boxes for the different updates and click Next. The Update Manager is accessible from the main menu and from the Activation Assistant. In case all your products are activated, the update manager opens as the Service Center's first page.

> PLEASE NOTE: The Update Manager only works in online mode.

After clicking **Next**, please choose the folder to which you want to download the update installers. By clicking 'New Folder' a new folder will be created in a selected directory. While downloading, a download statusbar is shown. After the file has been downloaded the download status is printed in green letters. By pressing 'Next' you'll be forwarded to the Main Menu.

Product Overview - This view displays all NI software on your computer that requires activation. Select the respective tab to see either the status of activation or product details like serial number and activation key.

Product Details view displays information that may be useful when contacting NI support e.g. the serial number, system IDs and activation keys for each product. Click on the "+"-symbols to see the details.

Personal Settings - The Personal Settings page lets you change the language of NI Service Center and edits your personal details like e-mail and postal address. Change your user name (e-mail address) as well as postal address by clicking on the Edit your address data link. Make sure to keep your postal address up to date.

Language - NI Service Center adjusts to the language of your operating system when starting up for the first time. However, you may choose another language on the settings page. A click on the "Choose your language" link displays the languages currently offered.

SUPPORT INFORMATION
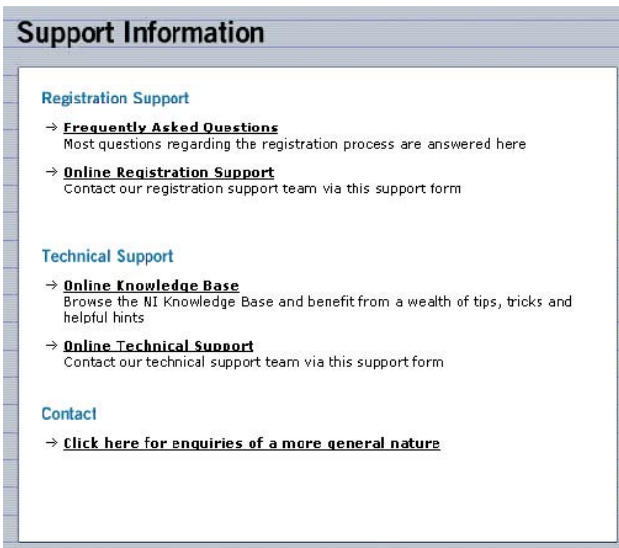
This provides information for Registration and Technical Support.

For more information about the NI Service Center, go to www.native-instruments.com.

How to Use the Gofriller Solo Cello

Once installed and authorized, it's time to get started with the Gofriller Solo Cello. There are three ways to use the Gofriller Solo Cello: as a plug-in within a sequencer, with a notation program (via your notation program's hosting or with a VST Host), or you can run the stand-alone Gofriller Solo Cello application.

USING KONTAKT PLAYER 2 AS A STANDALONE APPLICATION

The stand-alone version of the Gofriller Solo Cello can be played live via MIDI keyboard, independent of other programs. In this case, your computer acts as a stand-alone instrument, similar to an electronic keyboard or synthesizer with MIDI ports and analog inputs and outputs.

To use Kontakt Player 2 as a standalone application, go to the Program Files or Applications folder and launch Kontakt Player 2. When you do this, Kontakt Player 2 communicates directly with your computer's audio and MIDI hardware interfaces. You must configure the Audio and MIDI Settings in the File menu of Kontakt Player 2. For more information on Audio and MIDI setup instructions, please refer to the readme files with the Kontakt Player 2.

BASIC SETUP INFORMATION FOR STAND-ALONE MODE

To use the Standalone version you have to configure the **Audio** and **MIDI** settings in the Kontakt Player 2 Setup dialog box (found in the File menu).
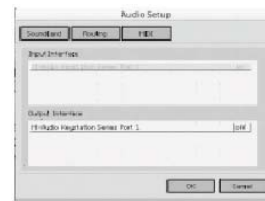
Soundcard Tab

- **Interface:** All of the supported (and installed) audio interfaces are available in this drop-down list. Select the desired audio driver (PC: MME, Direct- Sound, ASIO 2.0; and for MAC: ASIO 2.0 or Core Audio) from the list. Note: ASIO is recommended.
- **Sample Rate:** Depending on the sound card and driver you are using, various sample rates are available. Set the desired sample rate here.
- **Output Device:** Here you can define which of the installed audio interfaces should be used for the audio outputs based on the driver selected under Interface.
- **Input Device:** Here you can define which of the installed audio interfaces should be used for the audio inputs based on the driver selected under Interface. Note: With some interface types (e.g. ASIO or Core Audio), the Input Device setting is not available. Instead you can set the inputs for the chosen driver on the Routing tab.
- **Output Latency:** This box displays the output latency. With some drivers you also get a latency slider for setting an individual latency for the Kontakt Player 2.
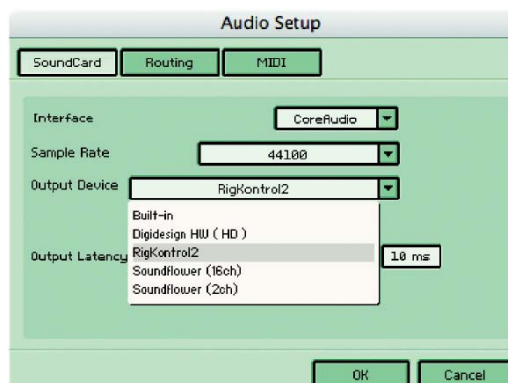
Routing tab   *Audio & MIDI tab*

- In the Routing tab, if you are using a multi-channel sound card, Kontakt Player 2 also allows you to freely select which channels to use for the output signals.
- In the MIDI tab, the two boxes (MIDI inputs and MIDI outputs) display all of the MIDI inputs and outputs that are correctly installed on your system. Click in the right column to "on" or "off" to activate or deactivate the corresponding MIDI input or output. From this point on, Kontakt Player 2 sends and receives MIDI on these activated inputs and outputs.

NOTE ABOUT PERFORMANCE

Since DFD (disk streaming) is applied to all layers, the overall memory load of the entire instrument remains below one hundred megabytes. On a test computer with 2.6 GHz, the CPU load was about 17-22% (midi processor and convolution included). Using a faster processor will increase performance and freezing tracks is recommended if your sequencer supports this option. In addition to getting better performance with a faster processor or freezing tracks; you can also use the purge function which will reduce the CPU load. The real breakthrough in this instrument is that all the processing occurs in real time, implying minimal delay between the midi input and the resulting audio output. This delay is determined by the convolver (**2.9 msec**) plus the latency of the audio card (about 5 msec). The instrument is therefore very suitable for live playing.

USING GOFRILLER SOLO CELLO IN A SPECIFIC SEQUENCER

When used as a plug-in, the Gofriller Solo Cello becomes a virtual instrument that can be seamlessly integrated into your favorite sequencer or "host" computer program. A major advantage to using a sequencer is that all settings are saved together with the song files and are totally retained and recalled upon reload. You can also load multiple instances and many instruments can be loaded at once in a sequencer.

The Gofriller Solo Cello works as a plug-in with many popular sequencers including Cubase, Sonar, Logic, Digital Performer, Samplitude, Nuendo, ProTools, GarageBand, Tracktion, FL Studio, Orion and others. There are many resources and tutorials on how to use the Garritan Libraries with the various popular sequencers and are available on the Garritan website at www.garritan.com.

There are four major plug-in standards:

Plug-in Standard	Description	Windows	Mac
VST	The VST plug-in stands for Virtual Studio Technology and was developed by Steinberg, the makers of the Cubase family of audio programs. It is also used by Cakewalk Sonar, Mackie Tracktion, Magix Samplitude, Nuendo, FL Studio and other sequencers.	X	X
DirectX (DX)	DirectX (DX) is Microsoft's multimedia plug-in standard for Windows 95, 98, 2000, ME, NT and XP. DirectX plug-ins work only with Windows on a PC. It is currently used by Cakewalk Sonar, FL Studio, and Sony Vegas	X	
Audio Units	The Audio Units (AU) plug-in standard was developed by Apple Inc. for Core Audio under Mac OS X. Audio Units is becoming the preferred plug-in format on Mac OSX and is used by Emagic Logic Audio under OS X. It is also used by Digital Performer 4.11+		X
RTAS	RTAS plug-ins (Real Time Audio Suite) are designed to work in the Digidesign Pro Tools environment. Pro Tools hardware and software are used extensively in the pro audio and post production communities.	X	X

USING GOFRILLER SOLO CELLO WITH A NOTATION PROGRAM

Notation is a fundamental part of music creation. Notation programs allow you to easily create and print sheet music with your computer. Until recently it was not possible to play realistic sounds from notation programs. Garritan pioneered the use of notation with samples and was developed specifically for notation. For the first time it was possible to play orchestrations directly from a score.

There are different ways to use the Gofriller Solo Cello with notation programs. One is to use it directly from within a notation program that can host it. Recent advances in notation technology will allow you to play the Gofriller Solo Cello directly from within certain notation programs. Programs such as MakeMusic FINALE 2007® will now allow you to host and integrate the the Gofriller Solo Cello directly in the application.

There are many resources on how to use Garritan Libraries with various notation programs on the www.garritan.com website.

About the Gofriller Cello

Gofriller cellos are regarded as one of the best cellos ever made, and are highly sought after. Mateo Gofriller (also Matteo Gofriller) was a renowned Italian cello maker from the early 1700's. He is considered to be one of the greatest cello makers of the Venetian School of stringed instrument makers. The Venetian School was the most important period in the development of cello making and he three greatest makers of this school were Matteo Gofriller, Domenico Montagnana, and Santo Seraphin.

Little is known of Mateo Gofriller's background. He worked in Venice and was believed to be Tyrolean by birth. The first instument ascribed to him as a viola da gamba dated 1689 which were popular in Venice at the time. Once source accounts for 21 extant cellos made by Gofriller daing from c.1697 to 1732.

Gofriller's instruments remained virtually unknown until the 20th century. Previously they were practically unkonwn and Gofriller's cellos have even been attributed to Stradivari or Guarneri, until the 1920s when his instruments began to be identified in their own right.

Many of the most famous cellists have preferred cellos by Mateo Gofriller and such instrments are highly sought after. Pablo Casals, one of the most famous cellists who ever lived, played the Gofriller cello for most of his long life and used it as his main concert instrument.

From a performer's perspective, it is said that a Gofriller is a pleasure to play. It is extremely responsive to the slightest touch of the player and very expressive. The player never has to force sound from the instrument, allowing the player to be totally at ease with what he wants to communicate with the music.

The Project: A Virtual Gofriller Solo Cello

The goal of the Gofriller Solo Cello is simply to provide the highest quality and most comprehensive solo cello library – one that is extremely thorough, realistic, and playable. We wanted to focus our attention on the most expressive musical instrument – the cello. Moreover, one of the very best cellos –the Gofriller.

The main objectives were:
- Implementation on a conventional sampler.
- Real time playability.
- Continuous transition (morphing) across several dynamics of the same note.
- Real time, continuous transition between vibrato levels.
- Real time control of the vibrato intensity & rate.
- Real time, portamento & legato.
- Real time shaping of most articulations.
- Timbral characteristics indistinguishable from the original samples.

Real time, continuous transition (morphing) across several dynamics of the same note has never been done with solo samples. Conventional samplers merely switch among different samples when different notes are played. This means that one may choose to play, for example, a pianissimo *(pp)*, or a fortissimo *(ff)* note, but cannot change the dynamics while the note is sustaining, which is absolutely necessary to mimic the behavior of a real instrument. A real cellist will crescendo on the same note while changing the rate and intensity of vibrato –all simultaneously.

Traditional sample libraries use discontinuous samples that transition between different dynamic levels *(pp, mp, mf, ff)* or different vibrato levels. This causes the listener to hear two distinct instruments (doubling) during transitions, with disjointed tones and phasing issues. Using traditional methods, it simply is not possible to have smooth transitions applied to solo instruments samples. The diagram below illustrates what a user hears during these sampling transitions.
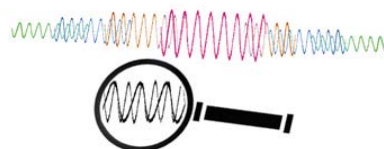
Fig 1: The resulting sound would be that of two separate instruments.

Fig. 1 above shows a zoomed view of the waveforms of two different samples of the same note. Solo cello, senza-vibrato, C3 mf & C3 mp, unprocessed. There is no obvious phase coherence between the two.

The problem has been solved using an entirely new processing technique developed by Giorgio Tommasini known as "Harmonic Alignment". This patent-pending approach aligns sound samples.

The samples corresponding to different dynamics of the same note are processed in order to temporally match the phase of all harmonics. This results in a set of sounds timbrically indistinguishable from the original samples, but that can be played simultaneously with no doubling and no phase artifacts.

Fig 2:   The Haronically Aligned sounds can 'morph' into each other.

In Fig. 2, after processing with the phase alignment technique; the samples 'morph' into each other seamlessly with no doubling, phasing or sonic discontinuity. The resulting sound is that of a single instrument with extraordinary levels of realism and expressiveness while preserving the natural characteristics of the instrument.

There will be the natural timbre changes while the note is playing in response to a continuous midi controller, across a virtually infinite number of dynamic levels, ranging from pianissimo to fortissimo. In addition, the new patent-pending **"Modal Body Resonance"** technology, developed by Giorgio Tommasini & Stefano Lucato, allows for precise vibrato control. This is the first time any sample-based library has used this technology and is another milestone in software instruments.

The powerful Native Instruments Kontak Player 2 allows for real time, portamento & legato.A proprietary midi processor, developed as a Kontakt 2 script, affects in real time all calculations concerning portamento direction, extent & rate by detecting overlap, timing, and velocity of the note flow. Sophisticated programming allows for a completely automated portamento and legato in response to very basic playing techniques.

Real time shaping of articulations is achieved by using a modular sample structure, involving separate attacks, sustains and release-triggered notes, with individual response to various midi controllers.

All the above solutions have been simultaneously implemented to create this virtuosic instrument, the Gofriller Solo Cello.

THE VIRTUAL GOFRILLER SOLO CELLO INSTRUMENT

The Gofriller Solo Cello is a sample-based software instrument. It was designed as the second solo strings library for the Native Instrument's Kontakt 2 sample player. The Stradivari Solo Violin 2.0 has also been released as a Kontakt 2 Player software instrument.

The choice for the Kontakt 2 sample platform was motivated by the availability of a powerful script midi processor, a fully programmable sampler, plus an efficient convolution engine on a single piece of software.

The Gofriller Solo instrument fully utilizes all the following elements:

1. **The midi processor.** The processor acts as an artificial intelligence interface between the player and the sampler, converting simple midi input into a sophisticated series of commands. For example, a simple note overlap will be converted to a portamento between the previous and the next overlapping note. The portamento rate and timing are determined by both the pitch interval and the note-on velocity, varying from full portamento, to partial portamento, to a pure legato depending on velocities. Additional features are: retriggering mode, automatic activation of mono or poly mode, based on the time difference between consecutive notes, partially automated trill and tremolo mode, automatic vibrato inhibition during portamento and pitchbends, polyphonic portamento, partially automated (and polyphonic) bow change in sustain mode, transient detuning on fast dynamic changes, and "intelligent" release triggered notes. The midi processor simulates the complex behaviour of a real instrument starting from relatively simple playing techniques.

2. **The sampler.** Along with the Stradivari Violin, the Gofriller Solo Cello is the only virtual solo instrument that allows for continuous transition across various dynamics by crossfading solo samples with no phase artifacts. The samples are pre-processed by a very complex transformation, which essentially synchronizes the phase of all sustain samples for a note while preserving the original sound quality. These pre-processed samples are the basis for getting full expression control.

3. **The convolution engine.** Convolution is normally used to add room ambience to a sound. With the Stradivari Violin, which first applied this technology, the Gofriller Solo Cello is the only commercially available instrument that makes use of convolution with a specifically designed instrument modal resonance impulse response to recreate realistic vibrato & portamento from deconvolved senza-vibrato sounds. The harmonic-aligned samples are convolved with the body's modal impulse response as the basis for full vibrato control. This latest version features low latency convolution which results in a much faster, more intuitive response to live playing.

THE PHILOSOPHY OF THE INSTRUMENT: REAL TIME SOUND SHAPING

The Gofriller Solo Cello adopts a new approach to recreate the very complex articulations that a real cello can perform. It uses real-time sound shaping, a rather flexible approach to a sample-based instrument. Real-time sound shaping is acheived by using a sequence of three elements for each played note: the attack, the sustain, and the release-triggered note.

Three different types of attacks are used, marcato (on-the-string with a sharp attack), staccato (a "dot", "detached" bow stroke), & martele (short, heavily accented). All notes are chromatically sampled with multiple takes. A programming script randomizes the choice of the take for each attack type guaranteeing substantial variety and virtually eliminating the machine-gun effect arising from repetitions of the same sample.

Sustains are chromatically sampled and unlooped. Each sample is about eight seconds long. Every sustain note, senza-vibrato (without vibrato) and con-vibrato (with vibrato), has been sampled at different dynamic levels. All sustains corresponding to the same note have been deconvolved, harmonically aligned and layered in different groupings, to permit crossfading between layers with no phase artifacts. This means a continuous transition across the dynamics may be carried out while the

note is playing, exactly as it happens with the real instrument. Real-time shaping of the dynamics with a virtually infinite number of levels is therefore possible, using real samples which retain their original timbre and nuances, instead of just filtering a single layer to mimic different dynamics.

Continuous transition from senza-vibrato to vibrato is also made possible by advanced programming in addition to convolution with a modal impulse response. The result is a realistic vibrato, where the onset, and the intensity and rate are under user control. It is thus possible to start from a senza-vibrato sample, add a progressively increasing amount of vibrato, increase the vibrato rate, and finally end with a senza-vibrato tail, immediately before the next articulation. Real-time shaping of vibrato is essential to the expressive sound of a cello.

To achieve the effect of the bow bouncing off the string, release-triggers are used. The midi processor script controls when they are to be played when they should be stopped or continued, or to reproduce the behavior of the real instrument.

Separation between attacks and sustain allows for special effects. You can play sharp attacks followed by pp sustains (like a sforzando), or very soft attacks followed by strong sustains (portato). A large variety of effects can be obtained, mimicking practically all playing techniques, using a limited choice of attacks and sustains.

Keyswitch-based articulations give additional expressiveness. One can switch to sordino, sul'altra corda, tremolo, pizzicato & harmonics pressing a single key. The sustain pedal triggers bow change mode, with or without portamento and legato.

Becoming a Virtuoso

The very best sampled solo cello library is at your command and you are the virtuoso. This library was developed with "playability" in mind. With these captivating samples you can impart vibrato, shape phrases, direct intensity and instantly direct changes in playing techniques – just like a true virtuoso. Achieving a realistic and commanding performance is a learned skill that requires knowledge of orchestration, string playing techniques, nuances of the instruments and performance skills. A real virtuoso spends a lifetime learning their instrument and can make it seem so effortless. As **Pablo Casals**, one of the most famous cellists that ever lived, remarked: *"The most perfect technique is that which is not noticed at all."*

With the Gofriller Solo Cello instrument, one should develop a mastery of the performance controllers on the keyboard. The capabilities of this virtual instrument can be as wide-ranging as your imagination. As you acquire a mastery of this library, you will develop your own playing style and will "feel" the instrument. Try to think like a cellist instead of a keyboardist. With the number of performance choices, high quality samples and expressive controls available, you can become more creative and explore uncharted musical dimensions. The most exquisite virtual solo cello is now at your fingertips.

> *"I think it's just as important to play new instruments as to play new pieces. The old ones are getting scarcer and the new ones more and more wonderful."*
> ***Yo-Yo-Ma***

The Range of the Cello

The range of the Gofriller Solo Cello is from C2 to C6 (on some keyboards this may translate to C1 to C5).
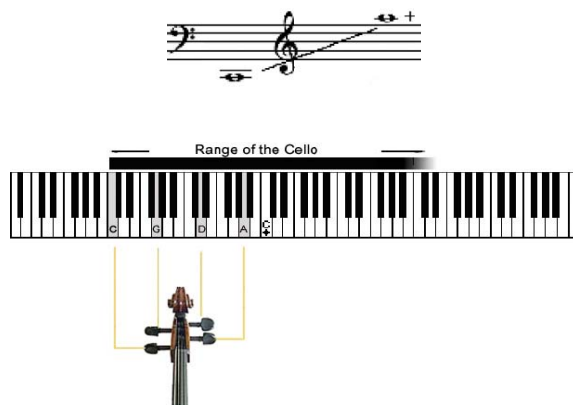
Cello Playing Techniques

The term "articulation" is often misunderstood. In sampling it is used to describe discrete snapshots of sound. With real players it is a set of instructions on how to play specific playing techniques. It provides instructions on how a tone is attacked, sustained and released - that is, how the performer "articulates" it from beginning to end - and also refers to the resulting sound itself. Some tones have sharp attacks, brief durations, and quick releases. Others emerge slowly, last for several seconds, and decay gradually. The range of playing techniques may seem staggering at first blush, but the variety affords many musical expressions.

Figure 4: Parts of a Cello

The term "bowing" refers to the way in which a string player uses the bow. Bowing is responsible for the length of a tone, its articulation (separate or connected), and its volume (dynamics). Bowing lends a distinctive character to the sound of the instrument, so much so that some have even described it as "the soul of the instrument." To quote a common saying: *"The left hand makes the notes, but the right hand makes the music."*

The bow is the implement used for playing a stringed instrument and has many rough horsehairs stretched from one end to the other. When a string player scrapes these across a tense string, the string naturally vibrates.

Typically, the player moves the bow across the strings in an up and down fashion, hence the terms "up-bow" (starting at the tip and marked V) and "down-bow" (starting at the handle and marked ⊓). She or he may draw the entire length of the bow across the string or only a portion, such as near the tip ("point") or the handle ("heel" or "frog").

These and other bow strokes, as well as bowing speed and the amount of pressure applied greatly shape the sound of the instrument. It takes years of practice for a string player to acquire good bowing technique. It also takes a certain degree of mastery to play the various bowing choices and to understand why a certain note should be played up-bow or down-bow, slurred or separated.

The various articulations, bowings, and playing techniques involve some aspect of the parts of a stringed instrument and/or the bow.

- **Legato Playing** - A beautiful, lyrical and effortless legato passage is one of the hallmarks of stringed instruments. Legato literally means, "smooth" and refers to the seamless connection of tones. When a string performer plays a legato passage, the notes are individually played without exaggerated attacks, so that one note appears to flow smoothly into the next. With legato phrasing, the sustained notes are usually played with a single bow stroke (or with bow strokes that do not expose the change of direction). Legato is often notated with a phrase mark (slur) over or under the melodic passage. Alternatively, the term "legato" may appear at the beginning of the passage, particularly if the use of a slur is too cumbersome.

- **Détaché Playing** - The opposite of legato is where each tone is deliberately separated from the next, as in the case of détaché articulation. Détaché playing involves a change of bow direction for each successive note. Détaché means "somewhat detached, but without interruption" (The opposite of détaché is where each tone is smoothly connected to the next, as in the case of legato playing).

- **Sordino (Muted)** - With the mute engaged, a string instrument's timbre changes dramatically. The tone quality of muted strings is difficult to describe, although "soft," "silky" and "velvety" are commonly used adjectives. The mute is a small wooden piece (clamp) that dampens the strings near the bridge. It absorbs some of the vibrations, reducing the strength of the upper partials (overtones) and thus "smoothing out" the sound. Sordino is often indicated with the abbreviation "*Sord*" or more fully "*Con Sordino*" ("with the mute"). The marking "*Senza Sordino*" ("without mute") instructs the player to remove the mute.

- **Staccato** - Staccato is Italian for "separated" or "detached." Staccato tones have a clearly articulated attack and are not connected like legato tones. Played on the string, the bow starts and stops on each successive tone, which results in a clear separation of tones. Staccato is used frequently in rhythmically charged passages. The notation for staccato is typically a dot or vertical stroke (staccatissimo) above or below the note.

- **Marcato** - Marcato is a pronounced on-the-string bow stroke with a sharp attack. This articulation is often used in aggressive and emphatic passages and is typically played at louder dynamic levels. In common practice, the player often uses the down-bow to accent the notes.

- **Martelé (It. Martellato)** - Martelé, which means "hammered," is a short, separated and heavily accented bow stroke, which remains on the string. Instruments designated Short Martelé have a short attack.

- **Sforzando (Sforzato, sfz)** - Sforzando means "forced" and denotes playing with an exaggerated accent. The player usually reads this as an instruction to attack the string with the strongest accent possible.

- **Spiccato** - Spiccato is Italian for "clearly articulated" and refers to a technique of playing with a bouncing bow. Some regard it as "off-the-string staccato." With this technique, the player bounces the bow off the string, rather than pulling or pushing the bow across the string. Spiccato is often used in light, spry and quick passages, as well as in softer dynamic ranges. Nimble fingers and a flexible wrist are required. According to some orchestration pedagogues, spiccato has up-bow and down-bow versions, called staccato volante and saltando, respectively.

- **Sautillé (It. Saltando)** - This advanced technique is essentially spiccato played at a faster tempo, such that the bow literally springs off the string on its own. Some refer to this articulation as "spontaneous spiccato" to reflect the apparently spontaneous action of the bow.

- **Portato (Fr. Louré or Piqué)** - Some call this a "brush stroke" and for good reason. Each note in a group, which is played under a single on-the-string bow stroke, is slowly "pushed" and slightly separated from the others, as if the player was brushing the string. This technique produces a lightly dragged or drunken effect, which some characterize as a series of sighs. The typical notation of portato is a dash (tenuto mark) above or below each note with a slur spanning the group of notes, often at the same pitch.

- **Pizzicato** - Pizzicato is Italian for "plucked." A player plucks the strings typically with the flesh of the finger, though for a more metallic effect the fingernail may be used instead. In the score, a change from bowing to pizzicato is indicated with the abbreviation "pizz." The word "arco" most often appears after a pizzicato passage to indicate that the player should resume using the bow ("arco" is Italian for "bow").

- **Secco Pizzicato (Stopped Pizzicato)** - The sound of a secco pizzicato tone is stopped immediately after the string is plucked to prevent it from sustaining.

- **Tremolo (Tremolando, trem)** - The word "tremolo" is Italian and means "to quiver" or "to tremble." Tremolos are divided into two main categories—bowed and fingered ("slurred")—and are subdivided into "measured" and "unmeasured," corresponding to the speed of the tremolo. Bowed unmeasured tremolo involves moving the bow back and forth on the same note in rapid succession. The effect sounds as if the player is furiously scrubbing the string with the bow. This technique sounds shimmering when played pianissimo and agitating at forte. For a lighter or heavier sound, the player may draw the bow "at the point" or "at the frog," respectively.

- **Trills (Trillo)** - Trills involve a rapid alternation of a given tone with its neighboring note. Trills are usually accomplished with one bow stroke, as most of the trill action is accomplished with the left hand. It is often indicated by "*tr*", or a long wavy line.

  A Half-Step Trill is the alternation between two notes that are a half step apart. A Whole-Step Trill is the alternation between two notes that are a whole step apart. Trills can be played at various intervals depending on the skill of the player.

- **Portamento (Slides)** - Portamento is a controlled sliding from one tone to another (literally "carrying"). The effect is a continuous change of pitch between the two tones. This technique is common to strings as players often slide to a note for expressive purposes. The proper use of portamento can produce virtuosic performances.

- **Glissando, gliss** - Whereas Portamento is the sliding of one note into another target note, glissando involves sliding the finger along the string of the instrument without an intended target note and usually over a longer span of notes.

- **Ricochet (Fr. Jeté)** - Employing this technique, the player drops the bow on the string, causing the bow to bounce freely and quickly on the string. Depending on the height or velocity of the drop, the bow may bounce and rebound three to six times before resting.

- **Harmonics** - The sound of harmonics is significantly different from that of stopped strings. Harmonics possess a flute-like timbre and sound at times fragile and ethereal. Natural Harmonics correspond to the natural overtone series of a vibrating object, such as a cello string. Each string has a "natural" series of harmonics based on the fundamental pitch of the open string as well as artificial harmonics.

- **Ornaments and Other Playing Techniques** - Ornaments are techniques of performance that serve as a decoration or embellishment to enhance melodic, harmonic or rhythmic interest. All of the following playing techniques are possible with the Gofriller Solo Cello
  - **Appoggiatura** - A temporary replacement of a note by a neighboring note.
  - **Arpeggio** - The playing of the notes in a chord in succession, rather than simultaneously.
  - **Mordent** - The alternation of a main note with its upper or lower neighboring note.
  - **Turn** - An ornament or embellishment consisting of multiple notes, where the neighboring upper, target note, and lower neighboring notes are played in successive fashion.
  - **Grace Note** - A note marked in small type to indicate that a quick additional note(s) is to be played and its time value is subtracted from the target note.
  - **Coloratura** - The use of rapid scales, arpeggios, trills, and the like, in virtuoso fashion.
  - **Double-Stops** - Double stopping, although not technically considered an ornament per se, is a playing technique where two notes are played simultaneously, requiring the player to draw the bow across two adjacent strings. Double stops work best when they are short and bowed aggressively.

In the following pages, we will describe how to play many of these techniques.

How to Play the Gofriller Solo Cello

The Gofriller Solo Cello will enable you to produce realistic performances. The Gofriller Solo Cello offers a standardized control system to enable you to play many articulations in real-time. With practice, you can perform many virtuosistic techniques, as a real cellist does, and you can hear the musical results while you play. This chapter introduces you to the performance controllers that offer you a wide range of playing techniques.
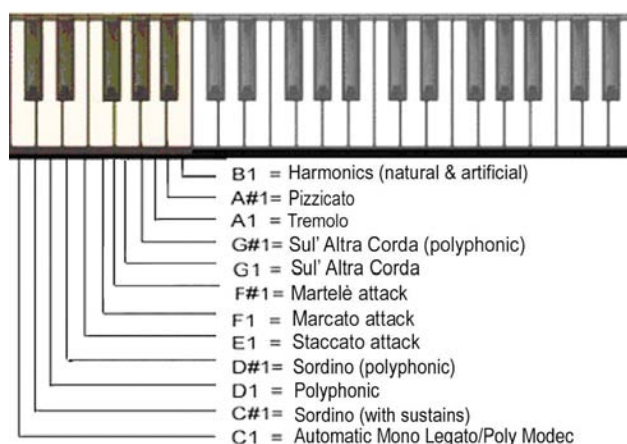
KEYSWITCHES

Keyswitching allows you to quickly and easily change techniques while you are playing. With a simple

Example: Press the "F" Keyswitch for downbows

touch of a key located on the keyboard below the normal range of the instruments, you can rapidly switch between different playing techniques on the fly without having to stop or load multiple samples. When you press a key in the Key Switch area, the instrument will change to the desired mode patch.
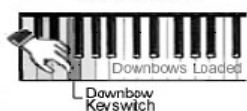
All patches initially load using the first keyswitch as the default (C1: automatic mono legato/polyphonic mode) and any keyswitch remains active until another keyswitch message is received. Although it may be tempting to use your mouse to trigger one of the displayed Keyswitches in Kontakt Player 2, it is seldom recommended. The player's graphic representation of keys, wheels, and knobs are primarily there for convenient testing. It is NOT recommended to use the mouse to trigger a key switch you want to record to a sequencer track or notation staff – the mouse action will not be recorded. When recording a track or entering notation, use your external MIDI keyboard to record the key switch note or manually enter the key switch note into your tracks.

The Gofriller instrument is controlled by 12 keyswitches *(C1 -B1)*, according to the following scheme:

B1 = Harmonics (natural & artificial)
A#1= Pizzicato
A1 = Tremolo
G#1= Sul' Altra Corda (polyphonic)
G1 = Sul' Altra Corda
F#1= Martelè attack
F1 = Marcato attack
E1 = Staccato attack
D#1= Sordino (polyphonic)
D1 = Polyphonic
C#1= Sordino (with sustains)
C1 = Automatic Mono Legato/Poly Modec

- **C1: Automatic Mono Legato/Polyphonic mode** (default mode) uses default attacks (initially staccato), normal sustains (senza sordino), release triggered notes. The midi script automatically plays in polyphonic mode (up to 4 notes can be simultaneously played) if the time interval between key presses is below 20 milliseconds. Polyphonic mode always involves attacks, sustains & release triggered notes. If the time delay between the start of overlapping notes is above this threshold, the

instrument will automatically play in mono mode. In this case the transition between subsequent notes will be portamento or legato, depending on the note-on velocity of the second note. On low note-on velocities, you will get slow portamento. On higher note-on velocities, the portamento will progressively disappear, and the legato effect will take over.

Differently from the Stradivari Violin, the Gofriller Cello employs retriggering mode, as implemented in many synthesizers. This means that upon releasing the overlapped note, the previous held note will be played again. This allows to execute perfect trills with variable amount of portamento, without the need of a dedicated trillo keyswitch. Trills are played as a real cellist would do, by holding the main note down, while rhythmically overlapping the trill note.

- **C#1: Con Sordino.** Essentially identical to C1 but with sordino sustains.

- **D1: Polyphonic mode.** Fixed polyphonic mode allows for effects as double stops, chords etc.

- **D#1: Con Sordino Polyphonic mode.**

- **E1: Staccato Attack.** Selects staccato as the default attack. Attack sharpness and intensity are mainly linked to note-on velocity, and, to a lesser degree, to CC#11.

- **F1: Marcato Attack.** Selects marcato as the default attack. Attack sharpness and intensity are mainly linked to note-on velocity, and, to a lesser degree, to CC#11.

- **F#1: Martelè Attack.** Selects martelè as the default attack. Attack sharpness and intensity are mainly linked to note-on velocity, and, to a lesser degree, to CC#11.

- **G1: Sull'Altra Corda** (a/k/a Sul' Altra Corda.) Selects sull'altra corda samples (played in higher position on lower strings) as the default sustains. Normal samples, i.e. on a higher string, are automatically selected when sull'altra corda samples are not available.

- **G1: Sull'Altra Corda Polyphonic mode.**

- **A1: Tremolo.** Tremolo is obtained by rapidly playing the same note which triggers overlapping downbow attacks on both note-on and note-off. It can also be used to get fast repeat note passages with attacks. Sustains are automatically activated when holding a note down for more than 90 milliseconds, which allows automatic switch to mono mode. Repeat tremolos, with automatic switch to sustain mono mode are feasible as well.

- **A#1: Pizzicato.** Three dynamics, responding to note-on velocity.

- **B1: Harmonics.** This includes natural and artificial harmonics for each string. Non-existing harmonic sounds are muted on the keyboard.

Although structurally very complex, the instrument becomes remarkably easy to play for anyone familiar with a digital keyboard. Many functions are intuitive, other are easily discovered and mastered. However, to fully exploit the expressiveness of the Gofriller Solo Cello, one should be aware of some peculiarities which differentiate the playing technique from, say, a conventional sample-based instrument. Remember that you are not going to play any pre-formed sample. If you simply press a key, without acting on the expression pedal or the modulation wheel, you will probably get just a lifeless senza vibrato sound with a constant timbre, corresponding to a single dynamic layer. You must play the Gofriller Solo Cello like a real instrument and impart life by performing with it.

How to Reproduce the Most Common Playing Techniques

Most, if not all, the Cello playing techniques described above can be reproduced with the Gofriller Solo Cello. In this paragraph you will find some suggestions to start with. Don't forget, however, that best results will be obtained by mastering the instrument through real time playing, and using your own musical instinct and creativity. After all, the best cellists were not cell makers. And Bartolomeo Cristofori could presumably not even imagine a Scriabin's Sonata when he invented the fortepiano. Exploring the infinite possibilities of a musical instrument is a task of the player. You have the instrument. Don't be afraid of experimenting with it.

GETTING STARTED

1. Activate the C1 keyswitch (default).
2. Set the mod wheel to the minimum level.
3. Play a single note with the expression pedal at the minimum, then gradually push it to its full extent.
   You will hear a senza-vibrato pp dynamic first, gradually morphing into a *mp, mf, ff* sound. The rate of transition across the dynamics will be related to the speed by which you increase the foot pressure.
4. Now play the same note gradually moving the mod wheel to its full extent.
   You will hear a transition from senza-vibrato to full vibrato.
5. Now play the same note, add vibrato and apply a progressively increasing pressure (aftertouch) on the key.
   You will hear a progressive increase of vibrato rate.
6. Repeat step 3, but this time pushing the expression pedal forth and back.
   You will hear a senza-vibrato pp dynamic first, gradually morphing into a *ff* sound, then gradually back to *pp*.
7. Repeat steps 4 and 5 pushing forth and back on the mod wheel, then applying an increasing/decreasing pressure on the key.
   You will hear a progressively more intense vibrato morphing with a senza-vibrato, at an increasing/decreasing vibrato rate.
8. Now play the same note by acting on all three controllers in a coordinated way.
   You will discover that you have gained full control on dynamics and vibrato of the Gofriller Solo Cello.

SHAPING ATTACKS & ARTICULATIONS

Each note of the Gofriller Solo Cello is shaped in real-time from an attack, a sustain, and a release-triggered sample. The default attack is a bouncing staccato, very suitable as a general purpose, light and fast attack. It was sampled as down and upbow with four different takes for each chromatic note. Intelligent pseudo random sequence on subsequent notes virtually eliminates the machine gun effect.

The intensity and sharpness of the attack are mainly linked to note-on velocity, while the subsequent sustain is controlled by the expression pedal. This gives the possibility of reproducing different articulations.

1. Activate either C1 (default) or E1 (staccato) keyswitches.
2. Set the mod wheel to the minimum.
3. Play a note by very short strikes, while progressively increasing note-on velocity.

You will hear just the pure *staccato* attack with its true release, when the bow bounces off the string.

Now try a different effect,

4. Activate the C1 or E1 keyswitch.
5. Set the expression pedal to the minimum.
6. Play a note by longer strikes, while progressively increasing note-on velocity, to let the attack flow into the sustain.

You will hear a soft *sforzato* attacks, as if the player would immediately decrease bow pressure after a short attack.

Try the opposite approach:

7. Activate the C1 or E1 keyswitch.
8. Set the expression pedal to a somewhat low value.
9. Play a note using a low note-on velocity, and holding the key down.
10. Immediately start to press the expression pedal, bringing the dynamic from pp to mf or ff.

You will hear a *portato* attack, a very light attack flowing into a stronger sustain.

Interesting nuances can be obtained by playing the attacks while acting on the pitchwheel (slight detuning before the attack starts, rapidly flowing into the correct pitch), the modulation wheel (getting a staccato-vibrato by adding a fast, rapidly increasing vibrato immediately after the attack), and the expression pedal, taking advantage of the slight detuning occurring on fast CC#11 changes.

The other built-in attacks are **marcato**, a heavier, longer attack ending on the string. It was sampled as two different takes, three dynamics, for each chromatic note. Most suitable for dramatic effects, it merges fluently into the sustain, with or without vibrato. Select this attack by the F1 keyswitch and repeat all sequences described above. You will hear a series of short, **marcato**-like attacks and downbows with stronger or lighter accent. Again, use the pitchwheel before the attack, and the mod wheel (and channel aftertouch) immediately after the attack for a virtually endless variety.

Martelè (a short, heavily accented attack) is another option. Select this attack by the F#1 keyswitch.

> **TIP:** Either the Staccato, Marcato or Martelè attacks will remain in effect until another attack is selected by the E1, F1 or F#1 keyswitch.

Staccato, Portamento & Legato Techniques

All attacks played so far were examples of staccato techniques, since the played note was a starting one. How to get portamento & legato, then? Here's where the real fun begins:

1. Activate C1 (default) keyswitch.
2. Play a note, holding down the key to get the sustain.
3. Play a different note with low note-on velocity while still holding down the first key.

You will hear the first attack and sustain, followed by a smooth portamento to the second note.

Now repeat the above sequence several times, gradually increasing the velocity of the second note. You will hear a progressively shorter, faster portamento, getting into a true legato at higher velocities. What if you play a third note while holding down the second one? This will immediately trigger a second portamento/legato towards the last note played. Thus, portamento & legato are easily obtained by overlapping notes with a time interval of at least 20 milliseconds. This also means that the Gofriller Cello operates by default in mono mode, that is, only one note played at the time, and in portamento/legato mode, which means that the attacks will only be played with the first note of a sequence. Conversely, if several notes are played simultaneously (within 20 msec), the instrument will automatically switch to polyphonic mode, and a double (or triple) stop will be played instead.

This will be better described in a next paragraph.

Try the following sequence:

1. Activate C1 (default) keyswitch.
2. Play an attack, holding down the key to get the sustain.
3. Play a different note with overlap on the first note to get portamento/legato.
4. Release all keys.
5. Play a new note, holding down the key to get the sustain.
6. Overlap a second note.
7. Release all keys.

You have performed a sequence: staccato – legato – staccato – legato. In fact, by releasing all keys, you set the instrument in a staccato mode, that is, the next note will be played with an attack. Overlapping notes sets the instrument in portamento/legato mode. In the latter mode each incoming note-on velocity determines the portamento rate and the automatic switch to legato on higher velocities.

> **TIP:** Very realistic glissandi may be obtained by overlapping two notes over a wide interval, using a low note-on velocity, and interrupting the portamento by releasing all keys before it reaches the destination note.
>
> **TIP:** Try this advanced technique for legato/portamento. Immediately before pressing the overlapped note, add a slight pitchbend in the opposite direction of that of portamento, i.e. upward portamento -> down pitchbend. Bring the pitchwheel to the reset position during, or immediately after portamento. This results in a much more realistic effect than simple legato/portamento with no pitchbend.

Bichord Portamento/Legato

The Gofriller Cello is the first sample-based instrument yielding portamento/legato on bichords. This is an important technique, much used by string players. Two strings are simultaneously played, while the fingers are sliding from a chord to another. This has been impossible to reproduce so far. Advanced AI techniques are used to identify the shortest path. The player only needs to simultaneously (within 20 msec) play two notes, hold them down, and eventually play two different notes. This is more easily accomplished by using the sustain pedal.

Try the following sequence:

1. Activate C1 (default) keyswitch.
2. Play a bichord, say C3 + F3, holding down the key to get the sustain.
3. Press the sustain pedal (CC#64).
4. Release the first two notes.
5. Play a different bichord, say A3 + C4 (either notes within 20 msec of the other).
6. Release the sustain pedal.
7. Release all keys.

You will hear a bichord, follow by a portamento to the second bichord. The portamento rate will be dependent on note-on velocities of the second bichord. A series of portamento bichords can be obtained by repeating steps 3 –5.

> **TIP:** Portamento/legato on chords is limited to two simultaneous notes. Bichords, indeed.

The Bow Bouncing Off The Strings

Releasing all keys has the additional effect of outputting a release-triggered sample corresponding to the last released key. This sample corresponds to the sound of the bow bouncing off the string. The midi processor uses advanced artificial intelligence technology to handle this sample on the basis of the incoming new note. In fact, when a new note is played on the same string, the release-triggered sample needs to be muted. Conversely, if the new note is played on another string, the release-triggered sample must keep on playing. Also, after a double stop, the release-triggered samples of both notes should be played upon relesing all keys. This is the behavior of the real instrument, and it is exacly what happens with the Gofriller Solo Cello, greatly enhancing the overall realism.

The volume of the release-triggered sample is linked to CC #11. This means that by acting on the expression pedal one can enhance or decrease this effect. Try for example the following sequence:

1. Activate C1 (default) keyswitch.
2. Set the Expression Pedal to an intermediate position.
3. Play a single note (attack & sustain)
4. Release the key, and simultaneously press the Expression Pedal to its full extent.

The result will be that of a mp/mf note played with an attack, followed by a strong bouncing of the bow off the string, as it happens with the last, accented note of a phrase on the real instrument.

Polyphonic Mode (keyswitch D1)

The default (keyswitch C1) mode of the instrument is an automatic switch between mono and polyphonic, depending on the time interval between overlapping notes. When two or more notes are played simultaneously, i.e. within 20 msec, they will be played as a chord. This means that the instrument will temporarily switch to polyphonic mode. On the next note, however, it will return to the default mode.

And if you want to play a polyphonic sequence? Polyphonic mode is activated by keyswitch D1. In this mode, attacks are always played, no portamento/legato is activated, and all notes are outputted exactly as they are played.

Try the following sequence:

1. Activate D1 (Poly Mode) keyswitch.
2. Play an arpeggio, with a slight overlap of subsequent notes, which means releasing the previous key shortly after playing the new note.

At the release of each key, you will hear the bow bouncing off each string, as it occurs with the real instrument. Very realistic arpeggios, and any combination of arpeggios and chords can be easily obtained.

> **TIP:** Please note that while double and triple stops can be effectively played in the default C1 mode, arpeggios will be played with portamento/ legato and without the release-triggered samples. In fact, Polyphonic mode may yield more realistic effects when playing notes on different strings, such as chords and arpeggios.

Bow-Change Effects

Since the bow has a definite length, no sustain may last forever. A Cello player often changes the direction of the bow, either for prolonging notes, or for getting a particular (*detachè*) effect.

The bow change effect is reproduced with the Gofriller Solo Cello by using the Sustain Pedal (CC #64).

Try the following:

1. Activate C1 (default) keyswitch.
2. Set the Expression Pedal to an intermediate position.
3. Set the Mod Wheel to an intermediate position.
4. Play a note, holding down the key
5. Press the Sustain Pedal
6. Release the key and play it again.

You will hear the bow change effect. The Midi Processor prolongs the first note until you retrigger it, in a kind of legato mode. However, the retriggered note is preceded by a bow change attack, and is slightly and transiently pitch-modulated downwards, mimicking the behavior of the real instrument. Both the intensity of the attack and the degree of pitch modulation are linked to the Expression Pedal, so they are much more evident at higher dynamics.

As long as you hold down the Sustain Pedal, the instrument will remain in the bowchange mode, and any subsequent note will be played with the bowchange effect. Releasing the Sustain Pedal will restore the previous mode.

New Bowchange Features:

In the standard version 1.07 of the Stradivari Violin, the bowchange, activated by controller CC#64, is audible on repeated notes, and at the end of each legato/portamento. However, in real playing, a bowchange may occur either before or after each legato/portamento. Moreover, slurred legato on the same string may not involve any bowchange at all. The Gofriller Cello offers greater versatility in this respect. The bowchange is still activated by CC#64. However, it is audible on repeated notes only. Overlapping notes with CC#64 yields legato/portamento only. It is now up to the user to add a bow change either before or after any legato/portamento by quick retriggering either the start or end note. This technique is very easily mastered, and works equally well in real time and with a sequencer.

Check it by the following sequence:

1. Activate C1 (default) keyswitch.
2. Set the Expression Pedal to an intermediate position.
3. Set the Mod Wheel to an intermediate position.
4. Play a note, holding down the key.
5. Press the Sustain Pedal.
6. Release the key and press it again.
7. Play a different note.

You will hear a bowchange, followed by a portamento/legato to the destination note.

> **TIP:** Realistic effects can be obtained by proper use of the Expression Pedal and the Mod Wheel during and after the bow change. Real cellists may decrease, maintain, or increase the bow pressure and/or speed immediately before the bow change. This can be reproduced by pulling back or forth the Expression Pedal before retriggering the note. Also, you may prefer to decrease vibrato intensity during the bow change, to increase it immediately thereafter. Please consider that this technique needs much experimentation to get optimal results.
>
> **TIP:** The bowchange feature also works on repeated bichords.

Con Sordino (Mutes)

Keyswitch C#1 activates *Con Sordino* playing. This patch works exactly as the default C1, but using con-sordino sustains that have been chromatically sampled at two different dynamics *(mp & mf)*. Conversely, keyswitch D#1 activates *Con Sordino* playing in polyphonic mode.

Trills (Trillo)

Differently from the Stradivari Violin, the Gofriller Cell does not need a dedicated keyswitch to activate trillo mode. This because retriggering mode has been implemented. Trills are played as a real cellist plays them, holding down the main note while repeatedly overlapping the trill note. This approach allows for real time flexibility in both trill rate and accent, which would be impossible to achieve using actual trill samples. Any trill interval can be used. Moreover, both the main and the trill note may be changed during a trillo sequence. The last held note will always work as the main note.

1. Play a note, holding it down.
2. Play a second note, one semitone up the first note, and then release it.
3. Play a third note, one semitone down the first note, and then release it.

You will hear a precise turn around the first note.

> **TIP 1:** Trills with variable amounts of portamento can be obtained by varying the overlapped note-on velocity. Higher velocities yield pure legato trills.
>
> **TIP 2:** Realistic crescendo or decrescendo can be created by acting on the expression pedal while executing the trill.

Sull' Altra Corda (or Sul' Altra Corda)

Keyswitch G1 activates *sull'altra corda* playing. This patch works exactly as the default C1, but using sull'altra corda samples (played in higher position on lower strings) instead of of the normal sustains. Since each string of the Gofriller Cello has been chromatically sampled at two different dynamics *(mp & mf)* over an interval of approximately one octave, several notes for each string are available as sul'altra corda samples. These samples have a different, warmer timbre. Normal samples, i.e. on a higher string, are automatically selected when sull'altra corda samples are not available. Keyswitch G#1 activates *Sull'altra corda* samples in polyphonic mode.

Tremolo (Tremolando)

Keyswitch A1 activates *tremolo* mode. Tremolo is obtained by rapidly pressing and releasing the note, in a way conceptually similar to what the cellist does by using a fast to and fro motion of the bow.

This approach allows for real time flexibility in both tremolo rate and accent, which would be impossible to achieve using actual tremolo samples. When the time elapsed between consecutive notes is above a certain threshold (about 90 milliseconds), the instrument automatically switches to temporary mono/polyphonic mode analogous to the default C1. This allows you to play multiple tremolos within a legato sequence, without the need of repeatedly deactivating and reactivating tremolo mode by keyswitching. The instrument will remain in tremolo mode until a different keyswitch is activated.

Try the following sequence:

1. Activate A1 (tremolo) keyswitch.
2. Repeatedly and rapidly play a note.
3. Hold down the same note.
4. Play another note, holding down the key.
5. Repeatedly and rapidly play a different note.

You will hear a tremolo followed by a sustain note, then a portamento to the second note, finally a tremolo on the third note. This will be obtained without the need of keyswitching C1 to restore the default portamento/legato mode.

> **TIPS:**
> 1. Realistic crescendo or decrescendo can be created by acting on the expression pedal while executing the tremolo.
> 2. Very low tremolo rates cannot be obtained, since the instrument will switch to a temporary mono/poly mode, and a sustain note will be played instead.
> 3. The sustain pedal is not active on this patch.

Pizzicato

Keyswitch A#1 activates *pizzicato* mode. Pizzicato has been chromatically sampled at three dynamics. The patch responds to note-on velocity, and each note is played until the key is released. Most realistic effects are obtained by proper use of the pitch and mod wheel.

Harmonics

Keyswitch B1 activates *harmonics* mode. This includes all harmonics for each string.

Vibrato Effects

Vibrato intensity is linked to the Mod Wheel (cc #1). This means that you may gradually morph from a senza-vibrato sound to full vibrato by acting on this controller. The vibrato rate is controlled by Channel Aftertouch. You may vary the vibrato rate from the basic 5.6 Hz to approximately 9 Hz by progressively increasing the pressure on *any* key. You can further modulate vibrato by acting on the Pitchwheel.

You therefore shape the vibrato waveform in real-time by using the mod wheel and aftertouch controllers. **You have to use these controllers** in order to get a realistic vibrato. This concept cannot be over-emphasized. In fact, the vibrato of a real cell is never too steady, neither in depth or frequency, and its waveform is also slightly variable over time. This can only be mimicked by acting on the above controllers. In this respect, the behavior of the Gofriller Solo Cello is fundamentally different from a conventional library using sampled vibrato.

Try the following sequence:

1. Activate C1 (default) keyswitch.
2. Set the Expression Pedal to an intermediate position.
3. Set the Mod Wheel to the maximum value.
4. Play a note, holding down the key.
5. Apply minimal pressure to the key (Channel Aftertouch).

You will hear a steady vibrato, approximately 5.6 Hz, rather dull and inexpressive. Modify the sequence in the following way:

1. Activate C1 (default) keyswitch.
2. Set the Expression Pedal to an intermediate position.
3. Set the Mod Wheel to an intermediate position.
4. Play a note, holding down the key.
5. Slowly move the Mod Wheel back & forth while the note is being played.
6. At the same time apply variable pressure on the key.

You will now hear a much more expressive and realistic vibrato, with variable depth and variable rate. By simultaneously acting on the expression pedal, you may also change the dynamics during vibrato, adding further expressiveness. A

true virtuoso may also slightly move the Pitchwheel at the same time, adding a slight detuning to the vibrato note. Despite the apparent complexity, mastering these vibrato techniques is essential to mastering the instrument.

> NOTE: The default range of vibrato rate will be probably suitable to most needs. There are circumstances, however, such as the necessity for a slower rate, or an excessive sensitivity of Aftertouch, where a lower range may be preferable.

> TIP: The offset of vibrato rate is linked to cc#67. If you have a slider that can be mapped to cc#67, you may directly control this parameter in real time. The minimum vibrato rate will range from approximately 4.0 – to 6.3 Hz. You may also easily modify the offset of vibrato rate by acting on the Vibrato Rate Offset knob in the Script Panel, which reflects and has the same effect of cc#67. The default value is 64

1. **Inhibition of vibrato during portamento.** Usually, when executing a portamento, a cello player will not add vibrato. You will notice that the Gofriller Solo Cello behaves in the same way, i.e. the midi processor automatically switches off vibrato during portamento and restores it to the actual value of the Mod Wheel immediately thereafter.

2. **Inhibition of vibrato during rapid pitch changes.** A cello player may choose to maintain vibrato while slightly detuning a note. However, when performing a more rapid and defined pitch change, vibrato is usually avoided. The Gofriller Solo Cello exactly reproduces this behavior. You will notice that slow detuning by the Pitchwheel does not inhibit the ongoing vibrato. More rapid changes will transiently switch off vibrato, restoring it to the actual value of the Mod Wheel upon stabilization of the pitch.

> TIP: You may easily modify the threshold rate for vibrato inhibition by acting on the Pb Vibr Inhibition Threshld knob in the Script Panel. Values range from 2.5 (vibrato inhibition on any pitchbend change) to 100 (vibrato inhibition is off). The default value is 20.0.

Start using these pitchbend effects to create very expressive sequences:

1. Activate C1 (default) keyswitch.
2. Set the Expression Pedal to an intermediate position.
3. Set the Mod Wheel to an intermediate position.
4. Play a note, holding down the key.
5. While keeping down the key, start a negative pitchbend, slowly moving the Pitchwheel to about a quarter of the full run.
6. Play an overlapping note two semitones below the first, and simultaneously return the Pitchwheel to its rest position.

You should hear a very realistic effect, starting from a first note with vibrato, a smooth pitchbend/portamento without vibrato, down to the second note with vibrato.

Try more complex sequences using up and down pitchbends and different note intervals. Also try a slight decrease of the dynamics by pulling back the expression pedal during the pitchbend. It's not too difficult and you will likely master this technique in a relatively short time.

And you're coming close to the basic philosophy of the instrument–complete control of pitch, vibrato, portamento and dynamics in real-time, to effectively reproduce almost any articulation of the real instrument.

Random Vibrato Rate

This is a new feature of the Gofriller Cello. It may help mimick the behaviour of true vibrato, which is virtually never performed at a fixed rate. While vibrato rate can be directly controlled by the player using channel aftertouch, there may be circumstances where a certain degree of automatic variation may be desirable. A script-driven pseudorandom generator accomplishes this task.

> **TIP:** You may easily modify the degree of random variation by acting on the Vibrato Rate Random knob in the Script Panel. Values range from 0.0 (no random variation) to 100 (marked random variation). The default value is 20.0.

Bow Noise Under Player's Control

This is also a new feature of the Gofriller Cello. Bow noise of the real instrument depends on several factors, including bow type, angle, pressure, speed, and the amount of rosin. For enhanced realism, the amount of bow noise of the Gofriller Cello is now under player's control, and can be shaped in real time.

> **TIP:** The amount of bow noise is linked to cc#15. If you have a slider that can be mapped to cc#15, you may directly control this parameter in real time. You may also easily set the amount of bow noise by acting on the Bow Noise Amount knob in the Script Panel, which reflects and has the same effect of cc#15. The default value is 64.

More On The Pitchwheel

The Pitchwheel is mapped to a nonlinear, quasi-exponential scale, to allow for subtle pitch modulation around the standard note pitch, while maintaining the usual +/- two-semitone range for more dramatic pitchbends.

It is always active, even during portamentos, to allow for complete pitch control. This means that you can play a slightly sharp-ending portamento followed by a quick retuning, or you can compensate an initial pitchbend, bringing the pitchwheel to the rest position during portamento, as described above. This helps overcome the limitations of keyboards and provides continuous (and not only discrete) pitch control.

Bowed string instruments, being fretless, may generate notes at any pitch within the instrument range. Moreover, the pitch can be continuously varied while the note is being played. The advanced technologies employed in the Gofriller Solo Cello come closer to the "continuous pitch control" requirement that guarantees realism.

Choice Of Controllers

The choice of the controllers was dictated mainly by their general availability on most keyboards, and their suggested use conforms to the standard practice. The suggested setup may not be the most efficient, but it turned out to be suitable to most purposes. We report some considerations on the advantages and limitations of the controllers employed.

Expression Pedal: This necessary controller is a relatively inexpensive and intuitive midi controller of widespread use, especially among live musicians. In its simplest form, its main limitations consist of a rather slow response and of the fact that it remains in the latest played position. More advanced pedals may overcome these limitations.

> NOTE: Check that your expression pedal has a linear response.

Channel Aftertouch: While available on most keyboards, it is not a very user-friendly controller and is implemented differently on different keyboards. It may be difficult to apply a constant pressure of the desired value. It may be also fatiguing on a constant use. While unsuitable for controlling the vibrato intensity, it proved a reasonable approach for vibrato rate control.

> **TIP:** If supported by your keyboard, a second expression pedal can be an excellent alternative. It may be linked to vibrato intensity, while vibrato rate may be controlled by the modwheel. Yes, you've got to use both feet, but it is exactly what you're doing when driving a car.

> NOTE: Make sure your expression and sustain pedals are connected to the keyboard and properly mapped to cntrl #11 (expression) and sustain pedal, respectively. And be certain that your keyboard extends down to C1, and is equipped with both a pitch wheel and mod wheel, properly mapped to pitch wheel and cc#1 (modulation), respectively.

The Impulse Responses

You will find several instrument body impulse responses (IR) selectable by the drop-down menu. They are supplied as 24-bit wave files of limited length (i.e. below 500 milliseconds). This allows you to use the Kontakt 2 convolution engine with a low latency, very suitable for real time playing.

NEW "DIMENSIONLESS SPACE" BODY IMPULSE RESPONSES

The Gofriller Solo Cello comes with several impulse responses, specifically designed to create a space effect, yet devoid of the perception of a finite dimension usually associated with conventional room IR. These IR are thus appropriate either for standalone use or with any reverb or convolution-based ambience effects.

While maintaining the timbre of the original instrument, each of these IR has a slightly different color. The choice of the IR is thus a matter of personal preference.

> **TIP:** CONVOLUTION WITH A LARGE AMBIENCE IS BEST CARRIED OUT WITH AN INDEPENDENT CONVOLVER, APPLIED TO THE OUTPUT OF THE INSTRUMENT(S). THIS CONVOLVER MAY BE SET TO MUCH LONGER LATENCIES THAN THOSE REQUIRED BY THE INSTRUMENT BODY IR HANDLED BY THE KONTAKT 2 CONVOLUTION ENGINE. THIS DUAL CONVOLVER APPROACH INVOLVES MUCH LESS CPU LOAD.

The Script Graphical Interface

The Kontakt Player includes a powerful and flexible MIDI script processor. The Script Graphical Interface (on the right of the instrument panel) allows to input the desired settings for several user-controlled parameters, and provides information on the mode of operation of the instrument.

The LEFT COLUMN allows selection of the Impulse Response by the drop down menu activated by the Select IR button. The Gofriller Cello is supplied with four different IRs, named Gofr_3_01 to Gofr_3_04, each with a slightly different flavour..

The MIDDLE COLUMN allows for setting of several parameters by the drop down menu activated by the Set Parameter button.

By selecting the first on top (Vibr Rate Offs) you set the Offset (minimum) Vibrato Rate. By turning the knob you can modify the minimum vibrato rate, from the default 5.1 Hz (knob value = 64), down to 4.1 Hz (value = 0), or up to 6.1 Hz (value = 127). This knob reflects and has the same effect of CC#67, as previously described.

The second item of the drop down menu (PB Vibr Inhibit) sets the Threshold for vibrato inhibition during pitchbends. The default value is 20.0, and the allowed range is 2.5 (vibrato inhibition on small Pitchwheel changes) to 100 (persistence of vibrato even on large pitchbends).

The third item (Vibr Rate Rand) sets the amount of random changes of vibrato rate. The default value is 20, and the allowed range is 0 (no random change, vibrato rate only controlled by aftertouch) to 100 (marked random changes, probably suitable only for special effects).

By selecting the fourth item (Bow Noise), you set the relative amount of bow noise. The default value is 64, and the allowed range is 0 to 127. This knob reflects and has the same effect of CC#15, as previously described. This means that bow noise can be controlled in real time for enhanced expressiveness.

The RIGHT COLUMN yields information on the actual mode of operation of the instrument, such as type of attack, type of sustain, mono or poly mode, type of articulation etc. Default parameters are: "Normal", "Mono", "Staccato Attack", corresponding to the default C1 Keyswitch.

The upper panel shows the keyswitch-activated mode. By pressing C1 (default) it will show "Normal", C#1 "Sordino", D1 "Normal Poly" (polyphonic), D#1 "Sordino Poly", G1 "Altra Corda", G#1 "Altra Corda Poly, A1 "Tremolo", A#1 "Pizzicato", B1 "Harmonics". This is very useful to check if you're playing the desired patch.

The panel below displays the number of simultaneously played note "Mono", "Poly2", "Poly3", "Poly4", or the connection type between overlapping notes: "Complete Port", "Partial Port", "Legato".

The third panel shows the attack type: "Staccato Attack" (default & selected by E1), "Marcato Attack" (F1), and Martelè attack (F#1).

The lower panel shows "Bow Change" upon pressing the Sustain Pedal (CC#64).

> **TIP:** Vibrato rate should be controlled by channel aftertouch. CC#67 was conceived to set the offset, i.e. the minimum rate, and not as a substitute of channel aftertouch. However, in case channel aftertouch is not available, CC#67 might still allow for real time control of vibrato rate.

A WORD OF CAUTION:

Please keep in mind that all of the sustains of the same note have been processed by a very complex algorithm including deconvolution and phase alignment. Moreover, the instrument has been properly programmed to maintain phase coherence under any circumstance. Any attempt to modify either the samples or the programming may easily lead to catastrophic results. Group filtering will have similar consequences. That's why we strongly suggest refraining from modifying the original instrument. This does not apply to the final sound.which can be filtered, convolved or processed in any way without any adverse effect on phase coherence. Thus, instrument effects can be safely and effectively applied to the Gofriller Solo Cello.

How the Kontakt Player 2 Works

THE BASIC INTERFACE

The Kontakt Player 2 allows you to load and customize the Gofriller Solo Cello sounds to be used for playback. The Kontakt Player 2 consists of several main parts: the Browser, the Main Control Panel, the Tabs (to access specialized screens) and the specific controls for the library. This section will familiarize you with the Kontakt Player interface. It can get a little technical but stay with it.

1. BROWSER

On the left side of the screen is the Browser window with three tabs. The Browser gives you the capability to navigate through the library (or libraries), as well as view engine information and assign automation. In the screenshot besides, the Browser is opened to the Libraries tab.

Libraries Tab

The Libraries tab shows the libraries that can be played in the Kontakt Player 2. For each library, there are Instruments, Multis, and Info menu. These three menus allow you to navigate through the library. Instruments are the basic patches that are created for you to use and Multis are combinations of various instruments.

If you click on the Instruments button, all instruments will be displayed below in the Browser. If you click on the arrows just to the right of either button, the contents of the library will appear in an easy-to-use hierarchical menu. If you click on the Multis button (especially with other libraries), all Mulits will be displayed in the Browser.

The Info tab brings up additional information about the library such as Updates, Registration, Forum and Support. In the submenu under the Libraries tab are a few buttons. There is a refresh button to refresh the Browser and an eject button to eject an optical disc.

> NOTE: Kontakt Player 2 is only able to play libraries developed specifically for it. Kontakt Player 2 is not able to load general Kontakt patches, nor is it able to import libraries from other formats. To do these things, you must own the full version of Kontakt 2.

Engine Tab

Clicking on the Engine tab brings up information about how the Kontakt engine is performing. This information is updated in real-time, so you can watch exactly how it behaves under various conditions (e.g. high polyphony, high CPU loads, etc.)

Automation Tab

The Automation tab allows you to assign various types of MIDI automation to various knobs within Kontakt Player 2 either in standalone mode or when using Kontakt Player 2 as a plug-in, select Host Automation. *(See Appendix A – MIDI Automation for more information).*

2. MAIN CONTROL PANEL

The Kontakt Player 2 main control panel gives you access to several controls and displays which are global to the program.

The upper four buttons (Browser, Outputs, Keyboard, and MasterKontrol) toggle the visibility of these four areas of the program.

> NOTE: If you are using the standalone version of Kontakt Player 2, you can use the F1-F4 keys to toggle each of these buttons from the keyboard.

Browser Section:

The Browser has been discussed above; we will now look at the other three areas individually.

Output Section:

When you click the Output button, the Output window appears at the bottom of the rack.

There are two types of faders: "Blue" faders that relate to channel outputs (the number of faders depends on the number of available outputs), and four "orange" faders that control return from the four send effects. Each fader, output or aux return, has four effect insert points. The output channel features, going from left to right across the top, are:

- **Add Channel:** Adds another output channel to the Outputs section.
- **Delete Channel:** To delete a channel, click on any section of the channel that doesn't contain an editable parameter; the channel becomes outlined in yellow. Click on Delete Channel to delete.

> NOTE: You cannot delete the Aux return channels.

- **Hide Inserts:** Hides all inserts to conserve space.
- **Edit Effect:** To edit an insert effect, click on it. Then click on this button to open and close the edit section for that effect. To delete an effect, click on the effect strip that includes the parameters (not the module in the slot); the effect strip becomes outlined in orange. Then, press the computer keyboard's Delete key.
- **Reset Out Map:** This button can be used to restore the output mapping to the default settings.
- Make Default: Clicking on this button saves the current output mappings as your permanent defaults. (These output mappings are saved to the Kontakt Player 2 application directory inside the Defaults folder.)

Each channel has a name field at the top. You can double-click in the field and type in the desired name. Below the name are four effect slots. To insert an effect, click on the downward arrow toward the right of the slot, and select the desired effect from the drop-down list. You can Adjust Output or Aux Return Level by moving the appropriate fader.

Config

This is where you configure the output for a number of channels and channel assignments. When you click on a channel's Config button, a dialog box appears with several fields. You can edit the Channel Name, but also, the number of audio channels (click on the Audio Channels parameter, then drag it up or down). Note that you can't specify more audio channels than actually exist.

Each channel shows up in a list. Click on the channel's Physical Out field, and a pop-up menu appears with all available output. Click on a physical output to assign it to a Kontakt Player 2 virtual output. You can use the << and >> buttons in the lower left hand corner to automatically go to the next available output.

Keyboard

The Keyboard button displays an onscreen virtual keyboard which features tinted keys, which can be helpful in auditioning the sounds of the instrument. Keys which have samples mapped on them are tinted blue, and keyswitch keys are tinted red. Keys which are being played will be shown in real time. You can transpose the keyboard's range within three octaves as well as create pitch bend and Modulation events (MIDI CC 1).

> NOTE: Clicking on the graphic keys, moving the mod wheel, etc. in the player will not be recorded to your sequencer. This must be done from your sequencer tracks or an external keyboard controller. If you have a MIDI keyboard connected, you may play the samples using your keyboard as well.
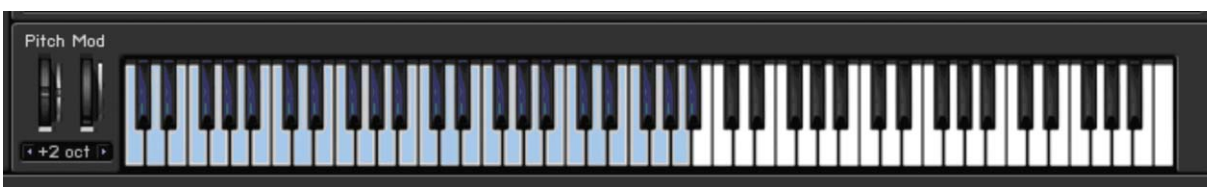
Master Control

When enabled in the Main Control Panel, this sits right under that panel and provides various functions.

The tempo knob sets the tempo for tempo-synched effects. If Kontakt Player 2 is used within a host program, this displays the host's tempo. The default is 120.00 BPM. There is also a sync button to sync to incoming tempo information (not visible in the standalone version). You can set the tempo manually by adjusting the tempo knob, or double-clicking on the tempo field and type in a new number, or by tapping a rhythm on the Tap button.

To use the Metronome, click the On button to enable it. The light below the On button flashes with the tempo, and the control varies the metronome volume.

The Master Tune area defaults to A=440, but can be adjusted with the knob from A=392 to A=493. You can set a reference pitch, and tune the sample against it. Turn it on with the On button, and use the knob to set the reference tone level.

Load/Save

The Load/Save menu gives you options for loading and saving instrument and multis, as well as resetting the entire multi (i.e. clearing the rack). Instruments and multis can be loaded using the Load option, and can also be loaded by simply dragging and dropping the NKI or NKM file from the desktop.

> NOTE: When saving instruments and multis, you are only saving the instrument/multi definition files, not the individual samples. Each individual sample is encrypted within the protected monolith file, and the raw samples cannot be extracted. In the Save dialog box, the patch + samples and monolith options are not available. This is due to the copy protection of the library; the samples cannot be extracted nor resaved.

There is an option to save the patch with absolute sample paths enabled or disabled. When you save with absolute paths enabled, the patch file includes a direct and absolute link to the location of the encoded samples on your hard drive. In other words, the absolute path will reference your hard drive name and the exact subfolders which the encoded samples are stored. This is the best option to use if you will not be sharing this library among multiple computers and intend not to move the location of the encoded samples. By doing this, every time you load one of the user patches, it will instantly and automatically find the samples.

By disabling the absolute path option, a relative path is used instead. For example, if you save the instrument in a subfolder which sits alongside the encoded sample files, a relative path will read something like "go up one level in the folder hierarchy and you'll find the encoded samples there." Relative paths are the best option if you think you may move the samples around. Be sure that the relative location between the newly saved patch and the encoded samples stays the same in order to make sure the samples can always be found automatically.

If a saved patch ever loses track of where its samples are stored, you will be presented with a dialog box upon load which prompts you to find the location of the samples. Instruments and multis saved from within Kontakt Player 2 are accessible through the Browser's User Instruments and User Multis menus, and can be used by anyone who owns the same library, from within either Kontakt Player 2 or the full version of Kontakt 2. The instruments cannot be used by a user who does not own the same library.

Options

The Options menu is where you determine overall Kontakt Player 2 preferences. Clicking on this button opens the Options window, which has five subcategories.

TAB 1: INTERFACE - Here you make basic adjustments to Kontakt Player 2's layout of Kontakt and functionality.

- **Small, Medium & Big Size:** The View menu lets you choose one of three sizes for Kontakt Player 2: Small, Mid, and Big. The edit boxes let you specify the size, in pixels, for the size. The width and height have separate fields; to change a field, double-click on it and enter the new value.

> NOTE: New values will take effect the next time you open Kontakt Player.

- **Capture Keyboard from Host:** Enabling this button catches certain keyboard keys and routes them to Kontakt Player 2 rather than to the host program. For example, you may want to type certain things on the keyboard and have them affect Kontakt Player 2 but have no effect on the host (e.g. you want to name something in Kontakt Player 2 using a letter that happens to be a keyboard shortcut for the host). Enabling this ensures the keystroke is interpreted by Kontakt Player 2 but not the host.

- **Capture Mouse from Host:** This is similar to Capture Keyboard from Host, but directs the Mouse Wheel movements to Kontakt Player 2 instead of the host.

- **Show Mapping and Keyswitches on Keyboard:** This button shades keys on the "virtual master keyboard" (along the lower part of the window) to indicate mapping and keyswitching.

- **Auto-refresh Browser:** This option activates the auto updating of the browser. When activated, the browser automatically detects from the operating system if a folder is changed / created.

- **Menu Font Size:** This drop-down list allows setting the font size bigger for increased legibility, or smaller to fit more items on screen.

TAB 2: AUDIO ENGINE - These settings affect Kontakt Player 2's audio engine.

- **Default Volume for New Instruments and Volume Reset:** Choose between –6dB and 0dB.

- **CPU Overload Protection:** This function will kill voices if the CPU load gets too high. You can specify how tolerant you want the engine to be.

- **Multiprocessor Support:** Enable this checkbox if you have a computer with more than one processor to take advantage of the additional CPU power.

- **Offline Interpolation Quality:** The new HQI mode allows you to select among three quality options when bouncing audio from within a host. "Standard" corresponds to the old mode, whereas "High" and "Perfect" increase the quality. HQI mode helps you eliminate digital aliasing

sounds which become particularly audible when you transpose sounds with significant high frequency content upwards. Note that this quality comes with a price in the form of additional CPU load and thus a lower total voice count.

> IMPORTANT: Both modes "high" and "perfect" will use more CPU if the transposition is higher. *e.g.* if you transpose a sample one, then 2 octaves, the CPU load will double every octave. So if you transpose your sample many octaves higher, the CPU load might be very high.

- **Open Audio and MIDI Settings:** Click on this button to view audio and MIDI settings that relate to your audio interface.

TAB 3: HANDLING

- **Use Computer Keyboard for MIDI Playback:** This lets you use your computer keyboard to trigger Kontakt Player 2 (handy for laptop jockeys on airplanes!). You can also edit the Velocity value that a key will trigger.

- **Keyboard Velocity:** This specifies what velocity should be sent when using the computer keyboard for MIDI playback.

- **Solo Mode:** Choose between Solo-In-Place (only one instrument can be soloed, others will be muted) and Solo Latch (you can switch several instruments into solo mode).

- **Browser: Double-Click Loads Instrument:** If enabled, double-clicking on a Sample in the Browser creates a new Instrument, with the sample spanning the entire keyboard range. If you Shift-Click multiple samples and double-click on the group of Samples, this not only creates a new Instrument, but also auto-maps the Samples equally across the keyboard.

- **Browser: Show Files Before Folders:** This alters the sorting algorithm of the Browser to show files before folders.

- **Default Root Key for New Zones:** Samples without root key information will default to this as their root key.

- **MIDI Channel Assignment for Loaded Patches:** This menu tells Kontakt Player 2 what MIDI channel you want newly loaded instruments to be assigned to. "1st Free" loads up each subsequent instrument on the first unused MIDI channel. "Omni" assigns all instruments to OMNI (meaning they will receive MIDI on any incoming channel). "Keep channels from K 1.x Patches" will allow the patches to load with whatever MIDI channels were saved within older Kontakt 1 patches.

- **Installation Base Path:** If you change the name of the Kontakt Player 2 folder, certain presets might not be available anymore. Set the installation path here to the location of the Kontakt Player 2 folder.

TAB 4: LOAD/IMPORT

- **Load Instruments/Banks/Multis in "Purged Mode"** (Without Loading Samples into RAM): Reloads the parameters of Samples that were purged, but without the Sample data itself. See Purge Menu below.

- **Force-load Pre-2.0 Patches in DFD Mode:** This forces the engine to use DFD streaming even for old patches that were not originally saved with it.

TAB 5: SEARCH/DB -This screen gives you options to specify what folders or volumes should be used when using search functions.

TAB 6: DFD - Direct from Disk

- **Amount of Memory for DFD:** Adjusts the amount of RAM to dedicate to the DFD process. Although samples stream from disk, it is necessary to store attacks in RAM so they are available instantly upon playback. If DFD isn't working properly, try allocating more RAM to this function.

Purge Menu

Purge analyzes which samples were used in an arrangement, and removes from RAM any samples that weren't used. Thus, Kontakt Player 2 can handle huge amounts of samples while exhibiting very low RAM usage. Scoring of large ensembles with many instruments and samples now becomes manageable.

Purge is available here on a Global level, but is also available on the Instrument level. You would use Global purge after a song was done, and you wanted to remove all unneeded samples. The Instrument purge is handy if you've finished a part; you can purge samples for that Instrument alone, thus freeing up RAM for additional overdubs.

Click on the downward arrow to access the following functions.

- **Reset Markers:** Deletes all "tags" that mark samples as used.
- **Update Sample Pool:** Unloads unused samples from RAM, loads newly marked Samples in RAM.
- **Purge All Samples:** Unloads all Samples from RAM.
- **Reload All Samples:** Reloads all Samples used in an Instrument.
- **Load Everything Purged** (Without Samples): Reloads the parameters of Samples that were purged, but without the Sample data itself.

A display for the instrument shows Purge status.

- **Green:** All Samples are loaded.
- **Orange:** Samples have been purged to reduce RAM requirements.
- **Red:** Empty–all Samples are unloaded from RAM.

View Menu

The entire instrument can be re-sized from the View menu. Choices are Normal, Bigger, and Large. Typically you will use Large when creating Instruments, and Normal when everything has been programmed, and you're using Kontakt Player 2 as a plug-in or stand-alone device. You can set the window size under Options > Interface.

System Performance Meters

These are located in the upper right section of the Main Control Panel. Clockwise from upper left, these show the following:

- **Polyphony:** The amount of polyphony being used. The first digit shows the current number of notes being played; the second digit shows the maximum amount of polyphony.

- **CPU:** Shows how much CPU power is being used by Kontakt Player 2. More bars indicate more CPU use.

- **Disk:** Shows the amount of Kontakt Player 2's hard disk access. Pulling more data from disk illuminates more bars.

- **RAM:** Indicates how much memory is being taken up by the samples used by Kontakt Player 2. This figure will be much higher if DFD is not being used.

Minimized Player View
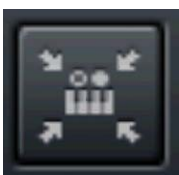
The last button on the right (next to the NI logo) is for Instrument Focus view. Clicking on this button will instantly zoom into the currently selected instrument, and will hide all other areas of the Kontakt Player 2 interface (e.g. Browser). This can be a useful tool to instantly collapse the Kontakt Player 2 screen to its smallest size and most essential elements.

About Screen

An About screen can be accessed by clicking either the Kontakt Player 2 logo in the far upper left corner of the interface, or the NI logo in the far upper right corner. The About screen contains the specific version numbers of all components of Kontakt Player 2, as well as design credits and links to web pages containing updates, support, and more.

Multi Area
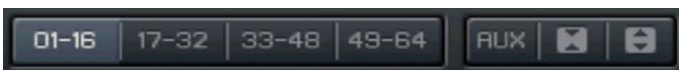
The Multi area is the large area on the right side of the Kontakt Player 2. Also referred to as the rack, this is where all loaded Kontakt Player 2 instruments reside. You can load multis (which are combinations of instruments) or you can load individual instruments, and they will both appear here. There are a few buttons in the upper right hand corner that allow you to work with the rack.

The four numerical buttons allow you to switch between four different pages of the rack. By using these, it's possible to load up to 64 different instruments at once. The Aux button is a toggle switch to show or hide the aux send faders for each instrument.

Instrument views

1. PERFORMANCE VIEW

The performance view shows a custom panel which allows you to alter specific characteristics of the instrument. You can view this panel by clicking on the "G" icon immediately below the gear icon in the upper left hand corner.

In the Gofriller interface there are various controls. There's a knob for tuning, Vibrato Rate, Vibrato Inhibition on-Pitchbend Threshold and other controls. These will be discussed in a later section of this manual.

2. MINIMIZED AND MAXIMIZED VIEW

The instrument minimize and maximize buttons allow you to instantly collapse or expand every instrument in the rack to its minimized or maximized view, respectively. The maximized view, as shown above, is useful when editing an instrument and accessing its panel. The minimized view is useful when you want to view all your instruments at once.

An instrument in minimized view shows only its name, solo and mute buttons, volume, pan, and tune knobs, and meters. The X button in the upper right corner deletes the instrument, and the + button switches to performance view.

Instrument maximized view is also available. An instrument in maximized view shows additional details about the instrument, such as output settings, MIDI channel, polyphony, a memory meter, and the purge.

Clicking on the gear icon itself brings up the Instrument Options window, which will be discussed below.

Instrument Options

1. INSTRUMENT TAB

- **Voice Stealing Mode:** Choose from:
    1. Kill any (the algorithm decides which is the best one to steal);
    2. Kill Oldest (oldest note still sounding);
    3. Kill Newest (most recently played note);
    4. Kill Highest (highest-pitched note);
    5. Kill Lowest (lowest-pitched note)

- **Voice Stealing Fadeout Time:** Sets how long a stolen voice will fade out before it disappears, from 0 to 1000ms. This may cause the number of voices to temporarily exceed the maximum amount of polyphony specified.

- **Key Switch Default Key:** This is the first key that is activated when you load this instrument

with "Start on key" group start options.
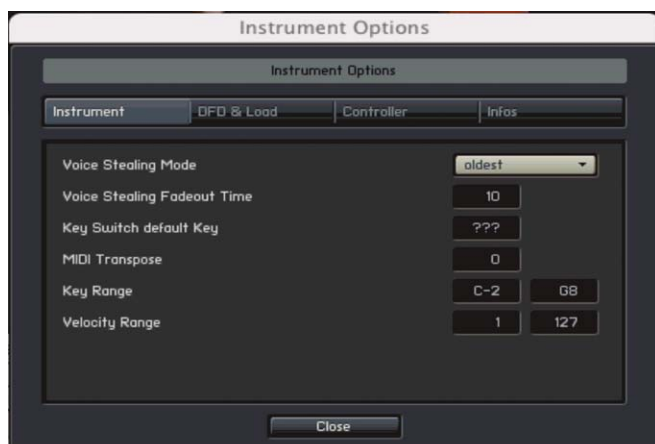
- **MIDI Transpose:** Transposes incoming MIDI data in semitones. Example: If this is set to 2 and you play a C# on your keyboard, the Instrument being triggered will play a D#.

- **Key Range:** This sets the Instrument's keyboard range. Placing your mouse over the lower or upper limit causes a double arrow to appear. Drag up to raise the limit's note pitch, or drag down to lower. The range cannot go below C-2, or above G8. Use this with multiple Instruments to create keyboard splits - for example, bass could cover the lower two octaves of your keyboard, and piano the rest. Double-click the value field to enter a note from your computer keyboard.

- **Velocity Range:** This restricts the velocity range to which an Instrument will respond. Placing your mouse over the lower or upper limit causes a double arrow to appear. Drag up to raise the velocity limit, or drag down to lower. The range cannot go below 1, or above 127. Double-click a value field to enter a value from your computer keyboard. Example: You could set a B3-type organ Instrument to respond to velocities 1-127, while a pipe organ Instrument responds to velocities 111-127. Velocities of 111 or above will layer the two organ sounds for a more powerful effect.

DFD & Load Tab

DFD PRELOAD BUFFER SIZE: Sets the amount of RAM dedicated to each preload buffer when using DFD. This is an expert setting and should not be adjusted unless you are instructed to do so from tech support. You have been warned!

Controller Tab

- **MIDI Controller #64:** This drop-down menu determines how Kontakt Player 2 responds to MIDI Controller #64, which defaults to controlling the sustain pedal. Here are your options.

  1. Sustain Pedal and Controller: Kontakt Player 2 will respond to a switched (on-off) or continuous controller (values above 64 = sustain on, values 64 or under = sustain off).
  2. Sustain Pedal without Controller: Kontakt Player 2 will recognize only a switched controller.
  3. Controller Only: Kontakt Player 2 will recognize only a continuous controller.

- **Accept All Notes Off/All Sounds Off:** This option will filter All Notes Off and All Sounds Off messages, which some older controllers send by default.

- **Accept Standard Controllers for Volume and Pan:** This option will automatically cause each instrument to automatically respond to CC#7 for volume and CC#10 for pan.

- **MIDI Controller #7 (Volume) Range:** Using this dropdown menu, you can adjust the minimum and maximum values that incoming MIDI CC#7 will translate to when controlling the volume of an instrument.

Info Tab

- **Instrument Icon:** Choose an Instrument's identifying icon.

- **Instrument Info:** A notepad for the Instrument, possibly including copyright information, helpful tips, etc.

- **Instrument Categories:** Choose an Instrument category. Being able to search on this can help considerably with database searches.

- **Author:** Information on the sample's creator. This is limited to 8 characters, so longer descriptions can go in the Info box.

Weblink: Provides a web link to the Garritan web site.

Getting Help

The first place to look for a solution to any problem you may be experiencing is in this manual. Please read the manual before contacting support. Next, check any readme files which contain important information and all last minute changes that haven't been available when printing this guide.

> IMPORTANT: For support for the Native Instruments Kontakt Player 2, please contact: support@native-instruments.com or Native Instruments Tech Support at: (323) 467-2693 (US) or +49-3061103520 (EU).

If you can't find a solution to your problem by any of the above methods, please email us at support@garritan.com. The best way to get the help you need is by giving us plenty of information about the problem you are having and your computer details. We do ask you to read this guide thoroughly and exhaust the other avenues of support before contacting us.

> REGARDING THIRD PARTY CUSTOMER SERVICE: Please do not call Garritan Libraries for technical support regarding Kontakt Player 2 or any other third-party application or program. All Kontakt Player 2 support issues are handled by Native Instruments. Please contact the respective companies for support on their applications.

The Gofriller Solo Cello is a dynamic library that is evolving and growing. Please check the support area of our website at www.garritan.com for the latest up-to-date information, FAQs, helpful hints, notation files, troubleshooting advice, tips and techniques, plug-ins, special programming, informative links and many tutorials. An excellent resource is the support forums at www.garritan.com/forum.html.

FOR THE LATEST… please visit our website at www.garritan.com.

The Garritan Community

Learn, Share Music & Stay up to date

I welcome you to join the Garritan Community.

Owning Garritan Gofriller Solo Cello gives you much more than a product. One of the most valuable benefits is membership into a community of musicians.

The Garritan Forum is where Gofriller Solo Cello users and other Garritan library users from around the world come to discuss everything related to music. It's the perfect way to find the latest news and announcements, ask questions and share your music made with the Gofriller Solo Cello. If you want to browse, share your thoughts about the Gofriller Solo Cello, impart knowledge, listen to demos, learn, and interact with other Gofriller Solo Cello users - this is the place! You can also communicate privately with other musicians (PM), respond to polls, participate in real-time chats, read how-to tutorials, and get support and help from others. There is a wealth of information among the tens of thousands of posts in the forum and a convenient 'search' feature to find what you are looking for.

The Garritan forum can be accessed at: http://www.garritan.com/forum.html.

You don't have to register to browse posts, but before you can post, you will have to sign up. Registration is fast, simple and absolutely free so please, join our community today!

I urge you to contribute and be a part of the Garritan Community where you will find an indispensable resource for musicians.

The Development Team

The Gofriller Solo Cello has been developed by an Italian team in collaboration with Gary Garritan, who also provided the Gofriller samples. Collaboration began in 2001 with the aim of developing expressive ways of playing this rare and exquisite instrument. There was extensive research, experimenting, trial and error in order to have better sound quality while maintaining the advantages of the new approach to expressive sampling. The founders of this team were:

Giorgio Tommasini, born in Milano, 1947. He played guitar and bass in various groups of the fabulous Sixties. In 1972 he obtained a degree in Medicine & Surgery at the Milano University "magna cum laude", and subsequently got specializations in Cardiology and Geriatric Medicine. He worked in several hospitals as a clinician and founded and was responsible for three different Cardiac Catheterization Laboratories. In 1996 he created and directed a Cardiovascular Division of a 400 bed hospital. He was actively involved in research on ischemic heart disease, writing more than 150 peer-reviewed scientific papers and presentations at international meetings. He was one of the first to apply computers in Cardiology, developed new concepts, discoveries and patents in the field of coronary flow measurements, new indices of myocardial ischemia and automatic quantification of coronary stenoses.

In 1980 developed a novel scheme of therapy for acute myocardial infarction that now belongs, at least in part, to current good medical practice. In 1992 he invented a new, panoramic approach to coronary angiography that was subsequently adopted by Philips and other medical X-ray groups. Giorgio became interested in samplers to get accompaniment for his piano playing in 1986. Very unsatisfied by the lack of expressiveness of all available sample-based instruments, he began to think of methods to overcome this limitation. The *"phase alignment technique"*, now patent-pending, was the first result of this new research in an entirely different field. For the first time it was possible to crossfade different dynamics with no phase artifact. The development of a controlled vibrato technique was the next step. It was now feasible to crossfade from senza vibrato to vibrato across several dynamics. New research on *"determination of modal resonances and the impulse response of an instrument by analysis of pitched sounds, and application to the sysnthesis of portamento & vibrato with samplers"* (now patent-pending) eventually resulted in a drastic refinement of the method.

Stefano Lucato, a talented professional musician and sound engineer, greatly contributed to the very innovative programming which characterizes the Gofriller Solo Cello Library. The

collaboration with Stefano yielded the extraordinary, innovative programming upon which the solo cello is based. Stefano Lucato was born in Gornate Olona, a quiet Italian country village in 1968. A priest of the nearby church discovered Stefano's predisposition to music, hearing the boy playing organ at 7, and provided him a teacher in exchange for the agreement to play at Sunday Masses. Play became passion. The encounter with the music world brought him across a long path including several successful records and an active collaboration with the National Broadcasting Corporation. Stefano presently works mainly as a composer and arranger, and is an acknowledged master in audio editing, mastering and development of new techniques of sound synthesis.

Gary Garritan is an award-winning developer of high-quality and innovative soundware. Garritan sample libraries have won accolades from celebrity musicians and music press alike. The libraries have been used in a variety of applications: from popular TV shows, film and attractions to video games, live concerts and ballets. In addition, hundreds of schools and universities have chosen Garritan Libraries for use with their music curriculums.

Acknowledgements

Want More?

Do you want more instruments to add to your virtual ensemble or orchestra? The Stradivari Solo Violin 2.0 is also available. Based on the same technology as the Gofriller, the Stradivari Solo Violin is the most expressive and virtuosic virtual violin available. Soon other stringed instruments will be available.

For an entire orchestra you may want to consider Personal Orchestra. For Jazz and Big Band there is the Garritan Jazz & Big Band library; and the Garritan Marching Band library for marching and concert bands.

Please be sure to check all of our latest soundware at:
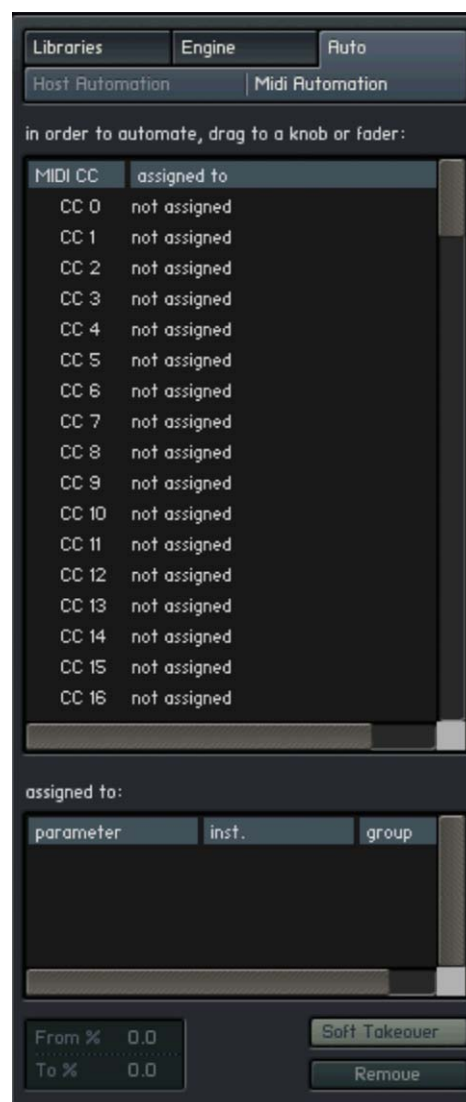
www.garritan.com

Appendix A - *MIDI Automation*

When in MIDI CC mode, move the MIDI device's control that you want to use for parameter control in Kontakt Player 2. A "lightning bolt" will light in red to the left of the corresponding CC number in the browser. Click on the CC number and drag it on top of the parameter you want to control. A hand will appear if the assignment is "legal." Release the mouse, and the assignment is made.

With Host Automation mode, select an unused ID and either double-click or click on Set to perform the assignment. The automation always applies to an entire group. The only functions which you can use with host automation are the volume, tune and pan knobs. The performance view knobs cannot be used with host automation.

> NOTE: Several parameters can be assigned to the same controller. This is great if you want a single control to do many things, such as increase brightness while increasing level. Also note that the Mod wheel is usually fixed at Controller 1, and Volume at Controller 7.

- **Remove:** To remove an automation assignment, select it then click on Remove.

- **Smoothing:** Incoming MIDI data is "quantized" to 128 divisions. Sweeping some parameters with this quantized signal produces a "stair-step" or "zipper" effect. The Smoothing parameter smoothes the incoming MIDI data (through a process of mathematical integration, just in case you wondered) by creating a ramp between values rather than a sudden jump. However, note that higher smoothing values also make the control less responsive when controlled over MIDI.

- **Soft Takeover:** Enabling Soft Takeover causes a parameter not to change until an external controller matches its existing value. Example: Suppose a level parameter is set to halfway, and a hardware control assigned to a level is turned all the way down. Without Soft Takeover, as soon as you move the hardware control the parameter will jump to the new value – in this case, something close to full off. With Soft Takeover, nothing will happen as you turn up the hardware control until the control is up halfway. It now matches the existing parameter value, which allows it to take over parameter control.

- **Cancel:** So you didn't really mean to assign that controller after all? Click on Cancel.