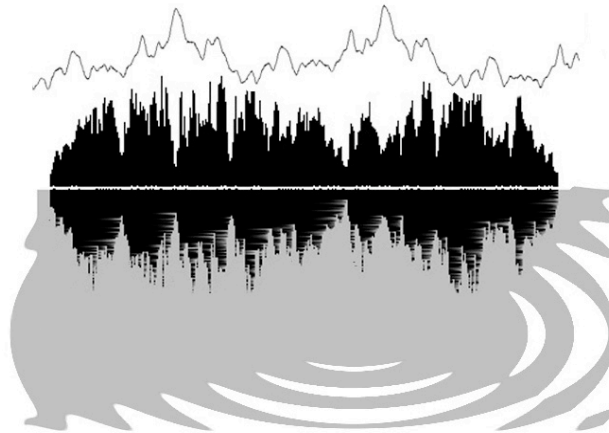


## Welcome to The Best Of Bolder double CD ROM for GigaStudio!



Over the years I've received many emails from customers asking if they bought the Akai version of this or that Bolder disc would it translate well into Gigasampler. To be honest I've never felt the quality of any import system into Giga was at all expressive. Sure, you can get the basic samples tuned correctly and mapped to the right keys....but this is not what I consider to be the kind of quality I'd want in buying a sound library, it's really just a compromise. Useful yes.... but I want my sound collections to be more than just useful, I want them to be invaluable! I DO want to acknowledge and thank Garth and the folks at Chicken Systems for their work on the TRANSLATOR conversion program, it has made my life a great deal easier.

This collection features what I feel is the most "choice" material from Bolder Sounds current catalogue of sample libraries as well as some new sound banks which are making their debut in this collection. Existing CD ROMs from Bolder are Eclectic and Eclectic Expanded, Granular Collection, Bolder Pianos, and from the "Early Music Series" - Fortepiano. I hope you enjoy it!

Dennis Burns - Bolder Sounds 4/3/02

<http://boldersounds.com>

The files in this collection were created with GigaStudio version 2 and Giga Instrument editor version 2.2. I am choosing to use .html format for documentation since the Giga Instrument Editor does not really give sufficient space for detailed notes.

Below is a list of all the sound sets included on "The Best Of Bolder". Just click on whatever instrument you wish to read about and you will be automatically taken there.... or you can just read in alphabetical order the list of instrument descriptions as you scroll down the page.

### from Eclectic Expanded

[Accordions](#) 3.9 MB, [Autoharp](#) 15 MB, [Bagpipes](#) 17.8 MB, [Banjo](#) 7.5 MB, [Bassoon](#) 4 MB, [Cavaquinho](#) 6.3 MB, [Celtic Harp](#) 2.3 MB, [Classical Guitar](#) 13.5 MB, [Crystal Glasses](#) 35 MB, [Darbuka loops & hits @ 106 & 113 bpm](#) 11.2 MB, [Didjeridoo loops](#) 21 MB, [Duduk](#) 12 MB, [Electric Guitar Volume Swells](#) 8.7 MB, [\\_](#) 6 MB, [Hammered Dulcimer](#) 5.7 MB, [Harpsichord](#) 20 MB, [Hurdy Gurdy](#) 10.7 MB, [Kalimba](#) 1.6 MB, [Lokata Flutes](#) 6.9 MB, [Louden Steel String Guitar](#) 7.7 MB., [Mandolin](#) 8.5 MB, [Mandola](#) 8.5 MB, [Mandocello](#) 2.7 MB, [Monochord](#) 7.9 MB, [Pub Pipes](#) 2 MB, [Renaissance Guitar](#) 6.2 MB, [Renaissance Lute](#) 11.2 MB, [Saz](#) 3.3 MB, [South American Flutes](#) 4.1 MB, [Spring Drum](#) 5.4 MB, [Steel Drums](#) 4.2 MB, [Tabla](#) 6.2 MB, [Taylor Acoustic Bass Guitar](#) 2.9 MB, [Turkish Lute](#) 9.1 MB, [Uilleann Pipes](#) 8.2 MB, [Upright Jazz Bass](#) 13 MB.

### from the Granular Collection

[Artic Bee](#) 1 MB, [Chordal Ostinatos](#) 39 MB, [Cyways](#) 15 MB, [Granular Loops & Hits @ 110 bpm](#) 12 MB, [Harmonic Pad](#) 3.7 MB, [Longongs](#) 14.7 MB, [Metalmorphic](#) 19 MB, [Minor Pad](#) 17.8 MB, [Moogular](#) 27 MB, [Mutation](#) 5.4 MB, [Opaque](#) 7 MB, [Pentatonic](#) 14.4 MB, [Psalm](#) 2,4 MB, [Random Universe](#) 5.7 MB, [Under Water](#) 6.7 MB, [Vudu loops @ 160 bpm](#) 9 MB.

### from **Bolder Pianos**

[Yamaha C7 Grand Piano](#) 137 MB.

### from **Fortepiano**

[Fortepiano 55 MB](#)

### **Previously Unreleased Samples**

[13 course Baroque Lute](#) 43 MB, [Wind Chimes](#) 1.1 MB, [Water](#) 19 MB, [Suspended Slate Rocks](#) 174 MB, [Marxophone](#) 55 MB, [Meditation Bowls](#) 47 MB, [Prepared Piano](#) 56 MB, [Zon Fretless Bass](#) 24 MB.

Below is a brief summary of some of the typical abbreviations and terms I use in naming files. They typically refer to techniques used in programming of each instrument.

MW - Modulation Wheel of your controller

PW - Pitch Wheel of your controller

Vel. - Velocity (how hard you strike the key).

lopass - Lowpass filter. This filter lets the "lows" pass through and cuts the highs (making the sound darker or duller) depending on it's numeric setting in the Giga Instrument Editor.

darker - The sound has less high frequencies since it has been "darkened" by the use of a lowpass filter.

Keymap - The way in which samples are placed ( or mapped out ) on the keyboard

DSP - Digital Signal Processing - this could be anything from simple EQ to radical granular synthesis.

Atk. - Attack ... the first segment of a sound. Sometimes called the "transient" portion of the volume envelope. On a piano sample, the attack is the part of the sample in which the hammer strikes the string, it is the loudest and most percussive part of the sound. The this attack segment is generally followed by a sustain section, then a release.

MW Mixer - Here you will have at least 2 layers of samples. The Mod Wheel acts as mixing control OR switching control between these layers. For example: there may be a crystal glass sample on layer 1, on the second layer there may be the same sample tuned down an octave. In the MW default position, you will just hear the glass at it's original pitch. As you move the MW you will gradually hear the 2nd layer come in and mix with the first layer. Then when the MW is fully engaged in the opposite direction (midi value of 127) you will only hear the glass an octave down. So at midi value 0 you hear original pitch, at about midi value 63 you hear an even mix of both layer 1 and 2, at midi value 127 you only hear layer 2. Got it? This is ONLY ONE example of how the MW-mixer might be employed. It could also be used to simply switch between layers with no 2 layers sounding at the same time.

Vel = Atk - When the key is struck at a low midi velocity value, the attack portion of the sound is slowed down. In other words it has a very soft attack. As you gradually play harder, the attack also becomes harder (or more percussive). Example: The pluck of a harp string has a percussive attack

followed by a soft sustain. By playing softly, your attack portion of the harp will be almost absent. As you play harder, more of the percussive quality will be heard. this technique can give almost a pad-like quality to any sound like a harp, piano, guitar, crystal glass etc....

Plucked Instruments - this description also applies to piano samples as well as any other instrument which has been sample with 2 different articulations or tone colors. Let say for example sake we have a renaissance lute bank. One set of samples would consist of the attack of the string with just the fleshy part of the finger, thus giving it a warm round tone. Then another set of samples would be taken attacking more with the nail of the finger thus giving a brighter more penetrating tone quality. what I would then do is set up these articulation (or attack styles) as Giga instruments all to themselves. in other words you would have an entire map of the lute with only the flesh attack samples. This would be useful for a piece of music which requires an even dynamic mf level yet a warm tone quality. You would then have a Giga instrument which features only the nail attacks. this would be good for something that needs to cut through a mix perhaps. Typically I will also employ different settings of a filter of some sort (most often a Lowpass) to give you more sonic choices. Then you would have presented a Giga instrument which combines these 2 attacks. You would "switch" between these 2 attacks depending on the control source. This control source could be the Modulation Wheel (MW) or perhaps Velocity (how hard the key is struck). The 2 previously mentioned control sources are the ones I employ in my programming most often. With velocity as the control source, I may have the "velocity switch" set at a velocity value of 100. So, playing at any value below 99 will only trigger the flesh attack notes (the softer layer), once you play at a velocity of 100 or greater, you will be triggering the nail samples (brighter samples). So the bottom line is the harder you play, the brighter and louder the instrument will become (like in the real world). I also may crossfade the 2 layers. This means that the "switch" is not as cut and dry. there will still be some of the other layers sound present when that velocity value of 100 is exceeded. This can create smoother transitions, however one must be careful with this technique since you are literally hearing the same pitch ringing against itself from the 2 articulations, which can sometimes cause phasing...sometimes not.

Transposition and Layers - One technique I like to use is creating 2 layers of perhaps even the same sound (sometimes 2 different samples). Then I'll transpose one of those layers down an octave with the Mod Wheel as a mixing controller. This can create some "other worldly" type sounds or sounds with great depth to them. this was used with the Slate Rocks, Autoharp, crystal glasses, meditation Bowls just to name a few.

### **Instrument Description List**

*\* If you're wondering what some of these instruments look like you'd be surprised as to how easy it is to find photos of them on the World Wide Web. Just go to your favorite search engine and type in the name of the instrument you are looking for... and usually within a couple of minutes you'll find a graphic of it.*

13 course Baroque Lute - The word "course" means strings as a unit. Some of the courses on a baroque lute are 2 strings played as one (like a 12 string guitar) the higher courses are single strings. This wonderful instrument was made by Luthier Larry Brown. It was sampled by plucking with the flesh of the finger as well as a nail of the finger articulation. The programs "flesh baroque lute" and "nail baroque lute" employ those articulations presented by themselves. "BL velocity switch @ 100" employs velocity switching at a midi velocity of 100. the nail samples are engaged once you exceed a value of 100. Also included is a program which has the velocity switch occur at 110 midi velocity There is also a velocity switch program which has the "nail" layer darkened by the use of a lowpass filter. The "velocity X-fade program subtly crossfades the 2 layers with the use of velocity. This instrument was the "last of the Lute family". The Lute began with 6 courses and eventually expanded up to 13.. ...a real headache to tune!

Accordions - Two accordions sampled here were given the colorful names of #1 and #2. They are presented by themselves as well as in layers with each other. Accordion 2 was sampled with 2 register

settings labeled 2a and 2b. The MW-mixer program mixes accordion 1 and 2a together.

Arctic Bee - From the Granular Collection. This is a piano string sample mangled with the use of granular synthesis. The original sample pitch is located at C4. The Mod Wheel controls the setting of the filter indicated.... lowpass, highpass and bandpass. think of the MW as a real time EQ.

Autoharp - This is a Oscar Schmidt autoharp with a solid wood top. Typically this instrument is strummed. However it is very nice to play as a keyboard-like instrument also. Try layering it with some pad sounds! The "Strummed Chords" program employs major chords from E2-A3 and minor chords from A#3 - C6. "Swirls and Stuff" are dream-like atmospheric type effects. "Autoharp vel = attack" employs the [above](#) stated technique. The "Swirl Layers" are transposed layers of the atmospheric samples..... they are quite fun to experiment with! The "MW mix autoharp + swirls" mixes in the swirls with the single pitches of the autoharp.

Bagpipes - This sample set was originally made for the Kurzweil version of Eclectic Expanded. I recorded these pipes in both mono and stereo. I present them as individual programs and then combined the mono and stereo version into one program which are called "bagpipe bands". You'll see a reference to "long loops" and "short loops", what does this mean? "Short loops" mean the loop point is located a ways into the sample (perhaps 2 to 3 seconds). This gives what I believe to be a more realistic sound of a piper. The pitch and overtones vary over time and this is somewhat audible.....it's more human sounding. The "short loops" have the loop point kicking in very quickly, thus making the pitch and harmonic content a bit more stable as well as "perfect" sounding. So I took advantage of these 2 approaches and combined them together to get a fatter sound as well as combining stereo and mono samples. Some of the "band" programs involve some detuning which fattens it up a bit. The "drones" are usually presented in the bass range of the keyboard as well as being presented in a program by themselves. One flexible thing about sampling drones is you can play them back at any pitch, which cannot be done on the real instrument. Bass, Tenor and Chanter drones were sampled.

Banjo - This is a stereo recording of a Deering banjo. You will notice an oddly placed single high G note at G2 on your keyboard. This is the high string of the banjo (5th string - usually played as an open string). If you want to make some convincing banjo "rolls" - just hold down your sustain pedal and do a simple arpeggio pattern involving this note and 2 to 3 other notes. Example: with the sustain pedal down.... play G2, C4, E4, then G2, D4, G4, then G2, B3, G4 quickly..... you get the idea! The program with "tighter stereo image" in the title simply means the stereo image is not panned as wide as previous programs. The MW is used also to control various filter settings.

Bassoon - This bassoon was sampled in mono with 3 articulations - no vibrato, with vibrato and "lyrical bassoon". The Lyrical Bassoon is with a very warm tone as well as a delayed vibrato which I feel is very expressive. The "MW=3way bassoon" uses the mod wheel to switch between these 3 articulations - 1st MW position, no vibrato - 2nd MW position, lyrical bassoon - 3rd MW position bassoon with vibrato.. "Lyric MW=attack speed" uses the mod wheel to control the attack speed of the amplitude envelope. This way you can have a very slow attack or a fairly quick one depending on the position of the modulation wheel.

Cavaquinho - This is a small 4 stringed Brazilian guitar used in popular music such as samba, Choro and Bossa Nova as well as many other styles. Sampled with a flesh and nail attack of the finger. As I typically do..... there is a flesh program only, nail only and then a velocity switch program switching between the two. Also there is a Velocity cross fade program which subtly fade the over ring of the flesh attack into the nail attack. This creates a bit of chorusing effect which gives it a bit of a shimmering quality. This instrument is played both by strumming chords as well as playing single note melody lines.

Celtic Harp - This stereo sample set was originally made for the Kurzweil. Nothing too tricky here in the programming...pretty self explanatory. The detuned program simply has the harp duplicated as another layer and then tuned slightly sharp to give a more synthetic feel to it. The "velocity = attack speed" program uses the above explained technique.

Chordal Ostinatos - These were created in the SuperCollider purely by the use of FM synthesis, no granular synthesis. But since i thought they were so cool I had to include them. If you hold down just one key, a chordal pattern is created. Augmented chords are mapped from C2 to D#2, diminished chords from B2 to C#3, major chords from C4 to B4, minor chords from C5 to B5. There are a number of filter settings as well as layered programs controlled by the Mod Wheel. The "layered octave programs layer the same sample against itself an octave lower, this creates a wonderful polyrhythmic effect. Why are there only 3 diminished chord and 3 augmented chords? Because these are all you really need to create a diminished sound or an augmented sound. Since C augmented is really the same set of notes as E aug. and G# aug. With diminished chords I've only given you triads.. if you need a half diminished chord or a full diminished 7th you can add that in easily with another voice (or sound in your orchestration) . Experiment with all the polychord possibilities you can.... example: C major against G major gives you a Cmaj9 type of chord.

Classical Guitar - This is my personal guitar made by Agostino Lo Prinzi in Clearwater Florida. This bank begins with a velocity switch between nail and flesh attacks. Then those articulations are presented alone. Harmonics are also presented. The program "velocity switch darker nail attack" simply employs the nail layer being darkened further by use of a lowpass filter as compared to the previous velocity switch program. This stereo instrument was recorded with a set of Nuemann Km 183 omni microphones.

Crystal Glasses - This is one of my favorite sets in this collection. I'm a sucker for sounds that have a beautiful attack followed by a lovely sustain.....crystal glasses have both. Crystals 1 - 50 are single hits of various size glasses with various types of attacks. Each crystal is mapped to the correct pitch on the keyboard so you can easily layer it with your favorite synth pad or whatever. Keep in mind that as Giga interpolates these sample during transposition up or down from the original pitch they will tend to sound more out of tune due to their overtone series.

The glasses were struck with a finger flick, plastic fork, soft mallet, screwdriver, hard mallet, pencil, pencil with a ball end made by rubber bands etc..... There are also a few samples recorded with the glass filled half way with water which gives it sort of a natural vibrato-LFO type effect. Starting at program 51, we have samples of the sustain of the glass created by running a wetted finger along the rim of the glass. These are presented as a simple program alone, then they are combined in layers which creates a nice fat chorused type ethereal atmosphere. The various programs which are called "crystal mixes" are just that.... they are the first 50 samples combined in various ways into one keyboard mapping. I simply randomly combined various crystals based on their sound characteristics and saved the ones I liked. Then you'll see a program like "Cry Sus(tain) 1+2, these are the layered sustain programs I referred to above. Programs 77 - 80 combine both the crystal hits with the sustained samples..... quite lovely for Holiday music! After all this I recorded (in a separate session) a crystal that is labeled as "Big Crystal". You'll notice the quality of this crystal is not quite up to the standards of the previously recorded crystals in that it has a bit more of a "tubby" quality to it. I thought I should include it anyway. You'll see the word (hand) after a couple of the Big Crystal programs, this means I struck it with the palm of my hand. I'd love to do another set of recording of these types of glasses in stereo..... perhaps next time around!

Cyways - From the Granular Collection. I gave this sound set this name because it reminded me of hearing vehicles passing by you on a highway, yet it seemed like a highway in the future, hence the name "Cyways".

I created the source sound files for this set with James McCartneys SuperCollider programming language. From those sound files I did some cutting and pasting. Then I used Digidesigns Sound Designer II software (remember that?) with it's "scrub" feature and played the sounds both forward and backward by dragging the mouse around the mouse pad at various speeds which created an acceleration type effect. That was recorded onto a separate hard disc recorder. Then I took those files and with the use of the SuperCollider granular engine, I applied various techniques of granular synthesis. The samples are mapped C2 - E4. "Cyways transposed" is a program which incorporates random transposition of each sample. These are wonderful pieces of "ear candy" which can spice up rhythmic sections of loops if placed strategically.

Darbuka loops & hits at @ 106 bpm - The hits are mapped F1 - G#3, the loops are on keys C4 - D5 (white keys only). I've routed the MW to a lowpass and bandreject filter for some real time EQ control.

Darbuka loops & hits at @ 113 bpm - This is the same drum as above with loops at 113 bpm. Single hits are mapped from F1 - G#3 as above, however the loops are mapped to keys E5 - A6 (white keys only).

Didjeridoo loops - These are 24 bit stereo samples. I've categorized these loops into 3 categories: smooth loops, rhythmic loops and barking loops. They are all first presented mapped across the keyboard at their original pitch. Then they are presented in their separate categories with various mappings. "MW mix octave" programs use the mod. wheel to mix between the loops at regular pitch then gradually mixes in the same loop an octave lower. Since samples 1 octave lower play back at half speed this can create very interesting rhythmic effects while "riding" the mod wheel. Experiment with this technique!

Duduk - The Mey is the Turkish name, Duduk the Armenian term. The essential feature of this wind instrument is a short cylindrical tube with 7 or more finger holes and one thumb hole coupled to a very large flattened grass reed, with some sort of adjustable "bridle" affixed to the reed. Several sizes are found, tube lengths ranging from 6 or 7 inches to over 16 inches. You'll recognize this instrument if you are familiar with Peter Gabriels "Passion", the soundtrack to "The Last Temptation of Christ". The first program "duduk basic" is a basic map of all the samples. "Brighter Samples is a keymap of just the brighter sounding samples. This will give you a smoother sound but will actually be a bit less realistic to the instrument. "Duduk sampled vibrato" is a keymap of all notes sample with vibrato, they are then combined into a velocity switch program between vibrato and non-vibrato articulations.

Electric Guitar Volume Swells - These 2 pad-like sounds were created with my Fender Stratocaster played through a Korg A1 multi effects unit. Various filter settings are employed as well as layering the 2 sample sets together with control of mixing via the Mod Wheel. James Taylor used this sample on his Grammy award winning "Hour Glass" CD (track 1, "Line Em' Up"). This sound is created by striking a note with the volume knob on zero, then quickly swinging the volume to maximum position thus missing the attack sound of the guitar all together for a somewhat violin-like effect.

Fortepiano - This instrument was previously released for Gigasampler as a stand alone volume. But since interest in it as a stand alone volume was somewhat "subdued" I thought it would be nice to include it in this collection so more people can simply get an idea of what this instrument sounded like. I think of it as the "missing link" between the harpsichord and the modern piano. Here are the liner notes from that CD insert:

On January 27th of 1999, I received an email which began out as follows: " Jim Aikin (Keyboard magazine) told me about you and gave me your website, which I have just visited. I am a 77 year old retired physician who has taken up electronic sound. The reason is that as a lifelong classical pianist I see the possibility of enlarging the pleasure and knowledge of others like myself by making the sounds of period pianos available to people with digital pianos who are willing to use samplers"....<sup>2</sup> from Howland Auchincloss of Cazenovia, NY. It<sup>1</sup>s not everyday that you get emails from a retired physician who wants to learn about the world of sampling! So, of course I wrote back and we continued corresponding. I began teaching Howland (via email), what I knew about the craft of sampling and sound design. I also had the pleasure of having lunch with him in New York City June 1999, when I was there visiting my family. There are many arguments pertaining to the pros and cons of sampling acoustic instruments. I personally only see benefits of sampling a instrument such as the fortepiano for two reasons. These instruments are quite scarce and it gives the musician using the sample access to an instrument that in all likelihood would not be available at all. Do I think that a sample of a fortepiano can replace real thing? No, I do not. But it is definitely a valuable tool in today<sup>1</sup>s digital music world. Also, it is possible that a sample such as this might generate interest



from a musician who has only worked in the <sup>3</sup>digital realm<sup>2</sup> in exploring the world of <sup>3</sup>early music<sup>2</sup> instruments. The second reason is that this sample-set (as well as others like it), may actually crossover into a world of <sup>3</sup>early music<sup>2</sup> buffs, and they may actually take a look into the world that they had never considered - that of digital sampling and it<sup>1</sup>s possibilities. So, I feel a project like this could possibly open up new worlds at both ends of the spectrum. The fortepiano sampled for this CD ROM was built by Chris Maene, and it is a replica of a fortepiano built by Anton Walter around 1780 in Vienna.

Fortepiano - This program is somewhat of a "default" program. It has a wide dynamic range and a moderate filter setting

Fortepiano darker - The filter is set a bit darker than the above program. The dynamic range is also slightly reduced.

Fortepiano darker bass - This version has a darker filter setting below C4.

Fortepiano panning - This version has an exaggerated panning effect employed with the use left and right balance controls in the samples stereo output.

### Historical notes on the Fortepiano

By Howland Auchincloss

The piano was invented around 1700 in Florence by Bartolomeo Cristofori. He called his invention <sup>3</sup>gravicembalo col forte e piano<sup>2</sup> (harpsichord that plays loud and soft). Since that time the words pianoforte and fortepiano (among others) have been used alternatively. In the last decades, however "fortepiano" has become a standard term applied to a category of piano popular in Austria and Germany in about 1780-1800. It was the proper instrument for performing the piano works of Haydn, Mozart and early Beethoven. There are many differences between a fortepiano and a modern piano, but the most important ones to a listener are the bright tone, the sharp attack and the rapid decay. With the change of musical aesthetics in the latter part of the 18th century, the fortepiano pushed the harpsichord out of its pre-eminent place as a keyboard instrument. Such a <sup>3</sup>victory<sup>2</sup> was short-lived. Even in the lifetime of Beethoven there were several changes to the fortepiano as music came out of the home and into the public concert hall.

By 1900 there was an "Early Music Movement" both in Europe and in America. The principal and earliest result of this activity was the revival of the harpsichord. The fortepiano was a late-comer to the early music movement. Major credit to its revival is to be given to Malcolm Bilson of Cornell

University, whose recordings on it date to the 1970s. Bilson<sup>1</sup>s most ambitious and recent undertaking has been a ten CD set of all of the Beethoven Sonatas on nine different fortepianos on the Claves label. Bilson performed seven of the sonatas, while others are performed by six of his former artist-pupils. Malcolm Bilson was extraordinarily helpful in lending his own personal instrument for sampling. This instrument is "Maene I" in the Claves Beethoven series. With the additional help of Edward Swenson, a piano restorer, and Peter Hopper, a recording engineer, a set of good samples were obtained.

Fretless Gut-Strung Banjo - This is quite an unusual instrument with a very distinctive sonic character. Not only is it a fretless banjo.... it has gut strings and has a lute-like gourd back to it! As with the Deering banjo sampled in this collection - There is a lone F note located at F2 which is the 5th string of the banjo typically played by the thumb as sort of a drone note used in rolls. Please see the [above](#) technique in which I described how to make convincing rolls. thanks to Tom Wasinger for letting me sample this creature!

Granular loops & hits @ 110 bpm - These loops are presented in both "straight" and swing versions. The swing versions were "swung" with the use of Logic Audio by Emagic. Programming features the use of the Mod Wheel to modulate various filter settings. The loops are mapped to keys C2 - G2 (chromatically) and the hits go from G#2 to D4 (chromatic also). the program called "mod wheel fun!" uses the mod wheel to mix between half speed loops and regular speed loops.

Hammered Dulcimer - Nothing too tricky about this program bank - a basic program map, one darkened

with a lowpass filter and the other having the mod wheel control the setting of the lowpass filter. play this one with you sustain pedal down to emulate all the "over-ringing" that goes on with this instrument.

Harmonic Pad - This sound was created with electric guitar harmonics and the use of granular synthesis (believe it or not). A great deal of "time dispersion" as well as elongation of the original sound file was employed. The entire sample at C4 (original pitch) is 20 seconds in length. So press C4 keep the sustain pedal down and give the whole thing a listen...then try playing it in 5ths.....a wonderful sonic event I think!

Harpichord - from the Eclectic disc..... programs are labeled by the word "choir" also meaning "stops", "registers" or "settings" depending on who you talk to. The "foot" number refers to the length of the string. Presented here are "8 foot choir", "8 and 4 foot choir", "full choir" and "lute stop" settings. Sometimes a lowpass filter is employed simply to give you a choice of a darker sounding instrument. this is not intended to be a "comprehensive" harpichord sample with each note sampled chromatically in stereo...it is sampled in mono yet I feel it is quite effective none the less.

Hurdy Gurdy - The hurdy gurdy, known in France as the vielle a roue or vielle for short, is an ancient instrument which is undergoing a modern renaissance in Europe and America. First, to dispel a popular misconception: the hurdy gurdy was not played by the organ grinder or his monkey. They used a large music box operated by a crank. Today's hurdy gurdy is roughly the same as those built in the middle ages. It has three to six strings which are caused to vibrate by a resined wheel turned by a crank. Melody notes are produced on one string, or two tuned in unison, by pressing keys which stop the string at the proper intervals for the scale. The other strings play a drone note. Some instruments have a "dog", "trompette" or "buzzing bridge" A string passes over a moveable bridge, which by a clever movement of the crank in the open hand, can produce a rasping rhythm to accompany the tune by causing the bridge to hammer on the sound board. The instrument is held in the lap with a strap to hold it steady. The case can be square, lute back, or flat back with a guitar or fiddle shape. Forms of the vielle a roue existed not only in France, but in Germany, Italy, Britain, Russia, Spain and Hungary. The origins of the hurdy gurdy are unknown but one theory says that when the Moors invaded Spain they brought with them many stringed and bowed instruments. There is no proof that the vielle a roue was one of them, but the possibility exists that something similar arrived in Spain at that time and dispersed throughout Europe along the pilgrim's roads. Beginning at C4, I've mapped out the basic melodic pitches. The keys below C4 I've mapped the various drones (the fly, little bumble bee and big bumble bee). A separate program maps out the trumpet drones with the melodic pitches. There is also a program with only drones mapped out. Obviously when an instrument with a drone is sampled it can be played at any pitch offering a great deal of flexibility. I think the titles of each instrument clearly convey what is programmed.

Kalimba - For this set I've sampled the same kalimba (thumb piano) with both a dynamic microphone as well as a condensor. These two versions are then combined into a velocity switch program. The "short" kalimba programs simply have a shorter VCA envelope assigned to them. The condensor mic kalimba is the 2nd layer of the velocity switch program since it is a bit brighter.

Lakota Flutes - Here I've sampled a big and a smaller Native American Lakota Flute. Both flutes were recorded with and without vibrato. Switching between these two articulations is also programmed with the use of the Mod Wheel. There are a few samples labeled "gestures" (C2 - C3) - these are riffs and bends which you can insert into a sequence if they seem appropriate.

Longongs - From "Granular Collection". The source sample for this sound was a gong. I call it "Longongs" because I elongated the sustain of the sound with the use of granular synthesis to a very exaggerated extreme, therefore naming them long- gongs. "Longongs at Cs has the original pitch of each sample at C2, C3, C3 and C4. The sample assigned to C4 is a gradual crescendo into the attack of the gong 13 seconds in length, so hold this one down for a while! "Slow Longongs" has a very slow VCA attack so you pretty much just hear the sustain. "Mod Wheel inversions" assign control of the filters to the Mod Wheel, yet each adjacent keymap is set to an inverted polarity. Depending on where you are



playing on the keyboard you'll have different filter interaction..... as always experimentation is the key! "Slow highpass filter MW" combines a slow VCA attack with the mod wheel routed to control the highpass filter setting.

Louden Steel String Guitar - This is also my personal guitar, this guitar is a favorite of Celtic musicians. Just one velocity layer is sampled along with natural harmonics. there are two programs which use the Mod Wheel to mix the harmonics with the natural plucked sample of the guitar. "MW mix nat. + harmonics" uses the Mod Wheel to gradually mix in the harmonics layered with the natural string pluck. The next program does just the opposite, it begins with the harmonics and mixes in the natural sound as you move the Mod Wheel. "Psusedo 12 string" uses an octave transposed layer against itself to create a 12 string guitar effect. This technique is only "useable" in a more limited range of the instrument

Mandolin, Mandola and Mandocello - Here we have the 3 members of the mandolin family. Their ranges correspond exactly to the violin, viola and cello. I have sampled all three instruments both plucked and tremolo. They are presented in programs featuring 1 articulation only and then they are presented as different types of layers - velocity switch as well as MW mixer control.

Marxophone - This is an early American instrument very similar to the construction and sound of a Hammered Dulcimer. However it has built in mallets which are spring loaded and triggered by pushing a button. It was one of those instruments that was designed so that "anyone" could play it..... push a button and get a note. It also has a most unusual tremolo like feature where the note is repeated by bouncing the mallet on the strings. In the Giga programs I've called this effect "tremolo", but that may not be accurate. There is no denying that this instrument has quite a unique sonic quality. Techniques of programming are my usual "bag of tricks" when it comes to an instrument which was sampled with tremolo and "straight". Various filter controls are employed as well as layers controlled by the Mod Wheel. Thanks again to my friend Tom Wasinger for letting me sample another one of his unusual creatures.

Meditation Bowls - Six meditation bowls were sampled for this set. If you've ever heard these things you'll know that after they are struck they sustain for a LONG time (a few minutes). So I did loop these samples, but I feel confident you'd never be able to tell. the bowls are labeled in ascending order; D - big, E - big, F# - big, F, F# and G. The bowls called "big" are bowls which sit on the floor, the other bowls are hand held bowls. So there are 3 "floor bowls" and 3 hand held bowls. This first set of programs utilize the F# bowl. This bowls (and most other bowls) were struck with various type mallets for different attack qualities. They are mapped to F# 1, 2, 3, 4, 5, and 6. So, depress these keys to hear the samples at their original pitch, then play any other keys you like to hear them at different pitches through out the octave. So when you see a program "bowls at F", play each octave of F to hear the original sample and then go from there. Sometimes the bowl samples are mapped out an octave lower than their original pitch, some of these bowls sound wonderful an octave down. Then they may be incorporated into a layer of original pitch and octave down transposition, at times this technique is mixed with the use of the Mod. Wheel. there are programs called 'soft sets" and hard bowl sets". These are simply grouped sample sets according to how they were struck, they are "mixed and matched" sets of different samples with similar attacks. I'd like to thank my friend Russ Agee for letting me sample these wonderful bowls!

Metalmorphic - From Granular..... I collected all sorts of metallic samples to make these sound files which "morph" very gradually into each other. Layers as well as Mod Wheel Mix layers are presented along with lowpass and highpass filters controlled by the Mod. Wheel. If you're looking for an atmospheric background sound that has a great deal of "bite"... look no further.

Minor Pad - This was originally from the Modal Soundscapes section of the "Granular CD", it was entitled "Mixolydian". Only after finishing that disc did I realize that I left out a low G in the source sound file. This omission makes what would have been a G9 chord really a D minor chord. the sound was created by layering some electric guitar volume swells and granulating them into a elongated pad. From there I used Tom Erbe's wonderful "Soundhack" program for the Macintosh and applied some

DSP effects such as convolution and mutation, resulting in 4 variations of this sound. Programs 1 - 4 simply map out each sample individually... just press the corresponding key to the pitch you wish to create a minor chord on. You can also create complex polychord voicings by depressing different pitches. "Minor 4 way split" maps each sample to G2, G3, G4 and G5. this program facilitates the use of the 4 versions of this sample to be used in conjunction with each other. "The 4 way layer MW" mixes in various degrees of each sample. "Minor 4 way split MW" uses the mod wheel to modulate the lowpass filter setting.

Monochord - This Monochord is an instrument that has 14 strings all tuned to the same note. It makes a wonderful natural resonant sweep when strummed. I strummed this instrument with both a pick as well as my fingers. Programs 0 - 12 are single sample strums mapped out across a very wide range. Programs 13 - 24 are various layer combinations. Silver Wave recording artist Joanne Shanendoah used this sample on "Peacemaker's Journey" which won a 2001 INDIE Award for 'Native American Album of the Year'.

Moogular - From the "Granular Collection". I created the source sound file for this with a Realistic (Radio Shack) Moog Synthesizer. It utilizes a simple sequence of the diatonic scale gradually unfolding under the wrath of granular synthesis..... it has a nice "toothy" bite to it. Each sample was manipulated with granular synthesis as well as being processed with Tom Erbe's Soundhack program for the Mac with varying degrees of Convolution and Mutation DSP. Those 4 version of the sound are presented alone, then they are layered into various combinations.

Mutation - The source sound for this granular adventure was a gong. I used a DSP function from Soundhack called "Spectral Extraction". What this does is it extracts the transient part of a sound and deposits it in a separate sound file, and then in another sound file it extracts just the pitched part of the sound. Then I mutated these 2 sound files back together after granulating them.... sort of a "pull it apart and then put it back together Frankenstein operation". "Mutation MW" simply controls the lowpass filter with the mod wheel, same for the next band reject filter.

Opaque - was created with a set of toy vibraphones. The Mod Wheel control of filtering is self-explanatory. As with all these granular "soundscapes".... play them in open voicings of 5ths, 4ths, 9th etc.... they swirl about in the most interesting ways!

Pentatonic - I created this sound from multi-tracking a set of random electric guitar volume swells to a pentatonic major scale. "Pentatonic Grainy" begins with a course-grainy quality but eventually blossoms into a nice smooth release. You'll see the words "time dispersion" in some of the programs. This refers to a parameter of granular synthesis in which the source sound file is "looked at" and "spit out" not in the traditional linear order (as in from left to right on a computer screen). It "looks ahead" a ways and intersperses that information with the current sound data.

Prepared Piano - This is not a prepared piano in the John cage sense of the term. It is simply some fun I had with the Yamaha C7 from Bolder Pianos. I used glass rods, strips of rubber, screws and magic markers (to the best of my recollection). "Muted Piano" utilizes the rubber strips to mute the strings.... this is a good percussive sound with pitch. "Hi & lopass velocity layer" uses the highpass filter when played lightly, as you play harder you hear the lowpass filter come in for a more full-bodied sound. "Glass Rod Piano shifted down" simply maps the samples to a key an octave higher, yet the correct pitches are retained by re-setting the unity note. The effect is something that happens at a slower speed and sounds a bit "deeper". "Glass layer" uses the original pitch plus the layer which has the unity note re-set as a layered program. Most of the "FX piano" samples were made by throwing a magic marker into the piano while the sustain pedal was depressed. "Use that Mod Wheel" mixes the muted effect with the glass effect. "Mod Wheel caution!" mixes all three effects... you can make some glorious noise with this program!

Psalm - This was made from a single piano string being plucked with a guitar pick and then elongated with granular synthesis. This creates a warm-lyrical sound for soft chords when played in the midrange

of the keyboard.

Pub Pipes - A very small set of Pipes for use in the Pub when you don't want to blow everyone out the door with volume. I've layered the pipes onto itself and detuned the layers in 2 programs to give a fatter effect.

Random Universe - Well.... what else would you call a bunch of Medieval Psaltry samples chewed up and spit back out by granular synthesis! This is one of my favorite "out there" granular files I've created period! Play it down around C2, then play it up around C4..... it's a whole different "universe".

Renaissance Guitar - Yes... there was a guitar in the Renaissance period! Although it is often overshadowed by the massive amount of music for the lute, this instrument has a charming delicate quality to it. I sampled it with both a pluck of the flesh as well as the nail of the finger. As usual I combined these into a velocity switch program and presented the nail and flesh articulations as programs of their own. Thanks to my old college guitar professor Charles Wolzien for loaning me his Renaissance Guitar!

Renaissance Lute - This is my 8 course lute made by Luthier Larry Brown Sampled and presented with both flesh as well as nail attack and then combined into a velocity switch program. (I know I'm becoming predictable here with these plucked instruments... but it does seem to offer a nice bit of flexibility in tone color).

Saz - This is a plucked instrument of Turkish origin with a quasi-Sitarish quality to it.... very evocative! This was sample both plucked and tremolo, and as usual I present those articulations alone then in combination with each other using the Mod Wheel as the control source. In one program (MW = switch) the articulations are switched "cleanly" on the "MW crossfade" program the articulations are gradually faded in and out with the Mod Wheel.

Sea Bed - This is my favorite granular "pad" sound. It is both effective for slow single melody lines as well as chordal voicings. I created this sound with a conch shell I brought back from a trip to Mexico. Then with simple elongation and a bit of pitch and time dispersion with granular synthesis it evolved into this nice long still sound. "Sea Bed split" uses an octave voicing in the lower part of the keyboard and in the higher part a single note voicing. The octave voicing has a very nice "string-like" quality to it. The use of filters are clearly explained in the titles of each program.

South American Flutes - Here a pan flute was sampled with no vibrato, a medium intensity vibrato and a fairly aggressive wide vibrato. The program listed as "vibrato 2" is the more intense vibrato. These are presented individually and then incorporated into a 3 way velocity switch program in "pan 1 - 3 way". "Pan 2" is a different flute utilizing some "chiff" samples as well as special FX-type sounds. "Pan 3" is a darker sounding flute with "chiffs", vibrato and an FX type sample. "Flauta Loco" (crazy flute) is a flute played with a wild and wide vibrato. "High Quena" also has a wide vibrato but is pitched quite a bit higher than the "flauta loco". These samples were recorded with a Nuemann KM 183 and a Demeter mic preamp for maximum warmth.

Spring Drum - Individual samples at the original pitch are mapped from C4 to G#4. "Spring Drum Spread" simply maps the samples out in a more spread out fashion so you have more pitch choices. "Spring Drum low" transposes the samples downward. The "ghost" programs employ a slow VCA attack for a "spooky" atmospheric effect.

Steel Drums - Here I sampled 2 sets of steel drums. "Steel Drums 1" is a brighter set of drums than #2, #2 has a nice "soft sheen" to it. they are programmed to be used as individual programs, then the 2 sets of drums are layered together. "I & 2 wider" utilizes a wider "spread" in the stereo image of the 2 drum layer, creating a "psuedo-stereo" effect..

Suspended Slate Rocks - I remember the cold Colorado winter day when I was out in the rock-yard

banging on piles of rocks with a mallet. The guys that worked there thought I was nuts! I explained to them that some rocks can be used as musical instruments and also make some very definite pitches.... they thought that was cool and next thing I know there's three other guys digging through a pile of rocks with me and banging on each one to find the "magical sound". This is definitely one of the more unusual sound sets in this collection. I don't believe you'll find this sample set anywhere else.

The slate rocks were recorded in stereo with a set of Nuemann KM 184 omni mics and a Grace Designs 201 mic preamp. These are 24 bit samples. Be sure if you are using a sound card which does not support playback of 24 bit samples that your "dithering" option is turned on in GigaStudio. You'll notice that the slate rock numbering system I've used is not consecutive...they are numbered 1, 2, 4, 8, 9, 10, and 11. I actually sampled 15 different slate rocks, I chose to use 7 of those rocks in this sample set. When a program indicates "samples at pitch" we have a mapping of that particular rock mapped out at it's original pitch mapped chromatically with different types of hits with everything from soft mallets, hard mallets, sticks, to the flesh of my hand. Programs with "pitch scaling" in the title mean that the pitch of the rocks ascend as you go up the keyboard, which seems "normal". However it is not at all normal when pertaining to one rock. One rock makes one or perhaps as many as three different pitches depending on where it hit. But the basic nature of a percussion instrument is one pitch only, however they do take on very different traits when transposed and can be quite effective musically. programs indicating "random pitch maps" are just that..... the pitch of each key is determined by myself in a somewhat random manner. So you can play in a "linear" manner and get non-linear results. many programs employ transposing the samples downward, these rocks have a wonderful sonic quality when transposed downward... the overtones play back at a slower speed thus making them a bit more "present". Combination maps like "map 1 & 2 layers 2 different rocks on top of each other. Sometimes I'll transpose only one of the layers down an octave... sometimes this effect will be controlled by the Mod Wheel position. starting at program #40 you have maps # 1, 2, and 3. These are mixed and matched maps from various rocks. One map may contain samples from rocks 2, 8 and 11, the next map might use 4, 9, and 10. MANY combinations are possible here.... I had to stop somewhere! There are also come "maps" which include just "sharp" attacks. These were mostly produced by hitting the rock with a wooden stick. "Velocity Combination" presets bring in another layer of mixed and matched keymaps when velocity levels increase. Special thanks to my friend Tom Wasinger who tutored me in the art of slate rock selection and musical applications

Tabla - hits are mapped from C2 to B2 (chromatically), the loops are mapped to C3 to E4 (white keys only). The loops are at the same tempo (or I should say can be used in the same composition) but are not always of the same duration.... some of them are in quite odd meters. You can have fun with the mod wheel controlling the "tabla layered octaves" which switches the loops to 1/2 speed.... this creates some interesting rhythmic effects with experimentation.

Taylor Acoustic Bass Guitar - This is an acoustic bass guitar recorded in stereo with a mic and a direct line out of the piezo built in pickup. In program 1 the mod wheel mixes the level of the 2 signals so you can use it as a balance control. "Resonant" in the last 2 programs refers to the use of a resonant lowpass filter.

Turkish Lute - Also called a "lauta". I recorded this exotic plucked instrument at mf (mezzo forte) and f (forte) dynamic levels in stereo. Programming is the "usual" treatment of an instrument like this.... velocity switch, mf and ff programs as well as a velocity switch program with lowpass filtering.

Uilleann Pipes - From the "Eclectic Expanded" library. This is an instrument I've been wanting to sample for a LONG time. I used a Nuemann U87 through a Grace Designs mic pre and recorded to Pro Tools 24 bit DAW at Coupe Studios here in Boulder, CO.

I sampled this instrument in both mono and stereo, but chose to just use the mono samples. I couldn't believe what a contrast of tone there was between D4 & E4. like night and day! I asked the piper if he could perhaps get closer in color to the previous note. He said "no way, it's an open note and the other is a closed fingering". The color in the lower range actually alternates in tone color ( bright, dark, bright etc.. up a D mixolydian scale. So I thought how do deal with this? So I decided to make a keymap of all samples regardless of color exactly as they really sound.. warts and all. Then I made a map of just the

bright samples and then one of just the dark samples. The darkness was not achieved by filtering, it's what they actually sound like. The more I sample the more I just let these inconsistencies "go". I also sampled this instrument with vibrato, although there are some notes in which it is virtually impossible to be a vibrato out of. "All filter matched" is a program which uses all samples and the use of various lowpass filter settings to get the tone color of each note to "match" as closely as possible. Program 7 "U.P. bright / lowpass" is simply a map of the "bright" samples with the use of a lowpass filter to tame them down a bit.

Under Water - This is a granular sound which almost sounds like whistling, but the pitch is all over the place. On second thought.... if whales could whistle under water, I think this is what it might sound like.

Upright Jazz Bass - I sampled 2 velocity levels here - mf and ff. The first program velocity crossfades between those 2 articulations. Typically I would not program a crossfade on an instrument such as this, I would just set up a switch, but the crossfade seemed to sound smoother to my ears this time. The 2nd program sets up a true "switch" between the mf and ff layers. Program 5 is a set of harmonic samples. Program 6 velocity crossfades a mf pluck with a layer of harmonics.

Vudu Loops at 160 bpm - These loops were originally recorded from a Roland Wave Drum before applying granular DSP to them. the loops are mapped chromatically C2 - C3. there are a few "hits" mapped from C#3 - E3 for fills or endings if needed.

Water - This is a set of samples which range from a rainstorm to a kitchen sink and bath tub. Be sure to play with the mod wheel controlled programs being as they are great fun! Be sure your bladder is empty before loading these into Giga or they will certainly have you running to the bathroom in short order: ;))

Wind Chimes - I've given each chime a program to itself mapped out across the entire keyboard since each chime has such a unique character. then I combine them into a "all chimes" program. "All slow pan" uses all the chimes yet the left side of the stereo field is delayed somewhat so you get a quasi-panning effect. the last program called "stereo pitch offset" transposes one side of the stereo sample creating a most interesting and dissonant effect.

Yamaha C7 Grand Piano - This piano was sampled at mf and ff dynamic levels. I also sample it by plucking the strings inside the lid of the piano with a guitar pick while the sustain pedal was depressed, this program is called "Yamaha Guitar Picked Piano". It makes a wonderful gigantic autoharp type sound. I used a set of AKG 414 mics set to a figure 8 pattern which gives this instrument a nice "wide open" sound. This piano was "extracted" from Bolder Pianos CD ROM library. With exception to the "guitar picked piano", these samples are all unlooped. I begin the program list with velocity switching between the 2 recorded dynamic levels. The velocity switch is offered at midi velocities of 85, 95 and 105 to suite various playing styles. If none of these presets seem to your liking in the velocity department, read the documentation of your controller keyboard to see if you can set up velocity curves to your liking. A number of programs will offer the ff layer with "darker" filter settings.

Zon Fretless Bass - This bass plays like butter! Thanks to Jeff Valone for letting me sample his "baby". I sampled natural notes, harmonics, and some random slides. The programming is pretty self explanatory in the name of each program and besides.... I'm really getting tired of typing! Go make some music!

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