COMPOSER KIT

DECODER ENSEMBLE

Instrument,- and personal skills relevant informations for Composers concerning the Members of Decoder Ensemble Hamburg

Leopold Hurt → e-zither
Andrej Koroliov → keys
Carola Schaal → clarinets
Sonja Lena Schmid → cello
Alexander Schubert → light, sound and electronics
Jonathan Shapiro → drums and percussion

decoder

Leopold Hurt **info@leopoldhurt.de**

The Contemporary Zither

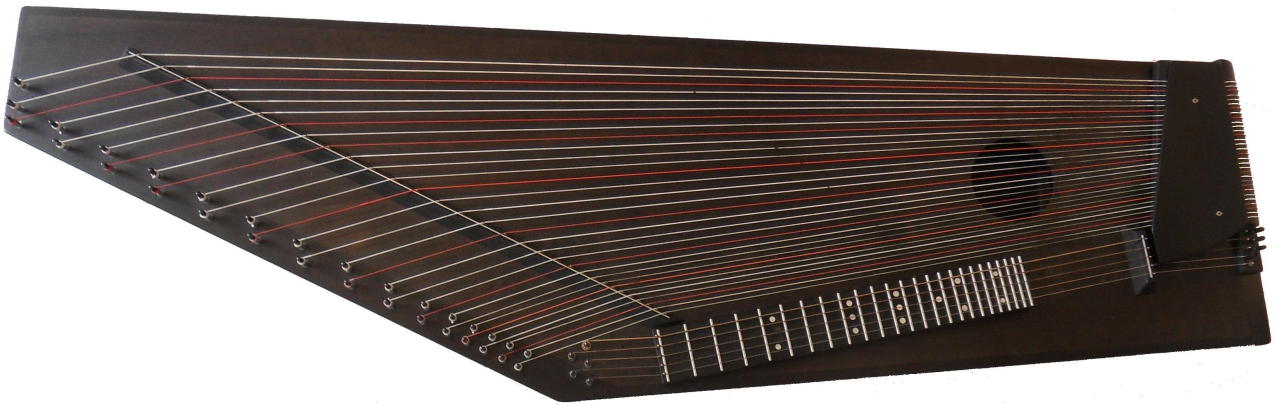
Definition

The mid-europaen zither is a plucked string instrument that has is origins in the Alpine region (Bavaria and Austria). It is still used there as an important instrument for original folk music. Around 1900 the instrument was in Europe nearly as widespread as the piano. The zither traditionally exists as a family of instruments with different tunings and ranges: fifth zither (Quintzither), discant zither (Diskantzither), alto zither (Altzither) and bass zither (Basszither). These instruments can be played together as ensemble similar to the string quartett. The "normal" zither is the discant zither. Sometimes you can also find the (outdated) terms "concert zither" (in German „Konzertzither“) or "harp zither" (in German „Harfenzither“). **The e-zither** is a (semi-acoustic) discant zither with built-in pickups: magnetic pickups for the fretboard (similar to the electric guitar) and piezo pickups for the so-called „free strings“ (in German „Freisaiten“). The difference between fretboard and free strings will be explained later.

The Contemporary Zither

The "normal" zither is the discant zither. Professional players also often use an alto zither (tuned a fourth lower than the discant zither), e.g. for the interpretation of baroque music.
The alto zither sounds „darker“, warmer, more voluminous but also less brilliant than the discant zither, comparable to the sound difference between the violin and the viola. In the interpretation of classical early music, the discant zither represents the renaissance lute, the alto zither the lower tuned baroque lute.
The bass zither is used as a bass instrument in the zither ensemble or in mixed instrumentations, rarely as a solo instrument in contemporary music (e.g. Walter Zimmermann: „Irrgarten“, or Alexander Strauch: „Anhörung“). It combines the bass and double bass register (the fretboard is tuned like the cello) and has an "archaic" timbre. Due to the large measures the virtuosity on this instrument is more restricted compared on the higher zither instruments (similar to the double bass compared to higher string instruments).
The quintzither (tuned a fifth higher than discant zither) is hardly used anymore and is therefore hardly built anymore.

Picture 1: Discant Zither,



Picture 2: E-Zither

Construction

The zither has two separate playing areas, named the **fretboard** and the so-called
free strings. The zither is therefore a kind of "combined instrument". The five-string fretboard has chromatic frets (like the guitar). The free strings are tuned in a special, non-linear arrangement of the strings in the fourth-fifth circle (see graphic).
The instrument lies on a stand similar to a keyboard stand horizontally in front of the player (or slightly tilted forward). From the player's perspective, the high strings are closer to the body of the player than the low strings.

The two playing areas
The five-string **fretboard** is tuned in pure fifths like the bowed string instruments (discant zither: a1-a1-d1-g-c). As one can see, the first (highest) string is available twice. This faciliates playing chords in high register. Chords with narrow intervals are therefore more easy to play even in the high treble (unlike e.g. with string instruments). This arrangement is a relic of traditional music, but also opens up attractive possibilities for contemporary playing techniques. The fretboard has solid chromatic frets (like the guitar) that span two octaves. So a range of two octaves is available on each string.

The **free strings** are arranged in a special fourth-fifth sequence in the upper two octaves (a modificated circle of fifths), the double bass range (lowest octave) is tuned in a chromatic sequence. In traditional music the arrangement in the circle of fifths made it easier to play accompanying chords, since the central chords of the respective key (tonic, dominant, subdominant, tonic parallel, etc.) lie directly next to each other (comparable to concept of standard chords in the left playing area of the accordion). As one can see, the range of the zither is exceptionally extensive for an instrument of this size. However, in comparison to other plucked instruments with a fretboard (e.g. guitar) or free strings (e.g. harp), you have to consider different specifics of the playing technique.

Distribution left hand / right hand

The **fretboard** is fretted with four fingers (thumb, index finger, middle finger, ring finger) of the left hand. The little finger of the left hand is not used. The fifth tuning a1-a1-d1-g-c of the fretboard corresponds to the tuning of the viola. The fingering is therefore comparable to the viola. The strings of the fretboard are strucked only with the thumb of the right hand which has a metal plectrum (“zither ring”). So only one finger is available for plucking all the strings. Multiple sounds and chords are played by strumming with the thumb quickly over all strings concerned.
The remaining four fingers of the right hand (index, middle, ring and little finger) pluck the **free strings**. Every finger can pluck a single string, or, in a fast arpeggio, strum several strings.

General Notation

The notation is similar to a piano score. The fretboard is notated in the upper system (in violin clef or, if necessary, in bass clef) the free strings are notated in the lower system in bass clef.
Hint for composers:
If you are not familiar with the distribution among fretboard and free strings, you can notate your music on one or more systems and leave it to the intrepret to make a playable arrangement.

Extended techniques

The zither offers a wide range of possibilities in extended playing techniques. Numerous effects, such as those known from stringed instruments like the guitar, harp or inside-piano, are also possible on the zither.

Typical Extended Techniques

1. Harmonics (Flageolett)
Harmonics on the zither are very attractive in terms of sound. The effect is a clear, bright, sometimes ethereal, sinus tone-like sound with a percussive impulse and relative long decay time.
1.1 Harmonics On The Fretboard
1.1.1 Natural Harmonics (harmonics based on an empty string as fundamental)
Basically: The higher the harmonic, the more difficult is the production and the more fragile is the result. Natural octave and fifth harmonics are unproblematic on all strings. Fourth and third (or sixth) harmonics should used with caution as they significantly respond more difficult.
1.1.2 Artificial Harmonics (harmonics on a fingered fundamental)
Artificial harmonics are to be used very carefully. They require a certain degree of concentration and care. I generally recommend using only artificial fifth harmonics. In rare cases, a fourth harmomic can also be used.
1.2 Harmonics On The Free Strings
Basically: The lower the string, the easier higher harmonics can be produced.
Please note: When playing harmonics on a free string, both hands are required to generate the sound. One finger of the left hand grasps the „harmonic dot" and one finger of the right hand plucks the relevant string. So if a harmonic is required on a free string, the left hand cannot be used for playing on the fingerboard at the same time.
Special case: The so-called "harp harmonic". Here, only the left hand is used. The thumb of the left hand grasps the harmonic point, while the middle finger (or index finger) of the same hand plucks the string. In this case, the right hand is free for other actions. This playing technique, which is known from the harp, makes it easier to combine different playing techniques among the two hands. However, fast sequences of tones are not possible in the left hand, since the "snapping" onto the relevant string requires care and some time (fastest sequence of sounds approx. 120 bpm).
1.2.1 Upper octave (first circle of fifths)
On the higher free strings, natural octave harmonics are unproblematic and very attractive. Quint flageolets are possible, but already require a much higher concentration. Higher harmonics beyond hardly respond and are only usable in special circumstances. They should be used only in consultion with the interpret.
1.2.2 Second octave (second circle of fifths) / bass strings
In the bass range (from the lower f) octave harmonics respond particularly well. Fifth flageolets are easier to produce than in the first octave. Still, higher harmonics beyond are only usable in special circumstances and should be used in consultion with the interpret.
1.2.3 Third octave / double bass register
The deepest wound strings offer enormous possibilities playing with extremly high partials.
The deepest free string can also be bowed (see explanation of arco technique). Especially with this arco technique, very high partials beyond the 12th partial respond very well. The sound is strongly reminiscent of playing with overtones on the (contra) bass clarinet or the sound of natural brass instruments.

2. Sul Tasto / Sul Ponticello
On fretboard and free strings: Finest gradations depending on the position of the right hand are possible (differentiated play with overtones):
sul tasto = round, full, soft, warm (= s.t.)
sul ponticello = bright, metallic, hard, cold (= s.p.)

3. Étouffé
Damped string sound.
3.1 Étouffé on the free strings
The string (plucked by the right hand) is dampened by placing a finger of the left hand directly on the left (or right) bridge. Different degrees of damping are possible: from soft damping with clearly recognizable pitch (medium long decay of the string, like a marimba sound) to hard damping, resulting a dry-percussive sound (hardly recognizible pitch, extrem short decay).
Only possible unanimously or as a chord / cluster of strings lying directly next to each other.
3.2 Étouffé on the fretboard
3.2.1 Étouffé on the fretboard, technique A:
Open strings: the left hand dampens a plucked open string by placing a finger directly next to the left bridge.
3.2.2 Étouffé on the fretboard, technique B:
The ball of the right hand moves slightly towards the middle of the string and thereby dampens the fretboard strings. Advantage: The entire fretboard (not only one string) sounds muffled. Fast series of notes are possible.
3.2.3 Étouffé on the fretboard, technique C:
"Half-gripped": the left hand grips the pitches on the fretboard as usual, but does not press the strings fully to the fret. Very practical on the non-wound a1 strings, on the wound lower strings the result will be a mixed sound of harmonics and étouffé.

4. Glissando
Talking about „glissando" on the zither, you have to differenciate.
4.1 Fretboard
4.1.1 Fretboard, Chromatic Slides
As the frets on the fingerboard are in a chromatic order you can play chromatic slides along the strings (like on a guitar).
4.1.2 Fretboard, Continuos Slides (bottleneck)
You can use a **bottleneck** for continuos slides on one or more strings simultanously. The bottleneck is holded by the left hand. Please note that in this case the left hand is „blocked" by the bottleneck.
4.2 Free Strings
4.2.1 Free Strings, „Harp Glissando"
The „normal" glissando on the free strings is comparabel to the glissando on a harp and means, in general, a fast arpeggio in an indicated range of strings. Upwards with any finger of the right hand, downwards with the thumb of the right hand. Please note: doing a glissando downwards, the thumb cannot pluck the strings on the fretboard at the same time.
4.2.2 Free Strings, Continuos Slides (bottleneck)
You can use a **bottleneck** for continuos slides on one or more free strings simultanously. The bottleneck is holded by the left hand. Please note that in this case the left hand is „blocked" by the bottleneck and cannot stop the strings of the fretboard at the same time. Apart from that, interesting harmonic effects are possible as you can play chords and cluster in the range of the bottleneck and „bend" them up- and downwards by moving the bottleneck to the left or right bridge.

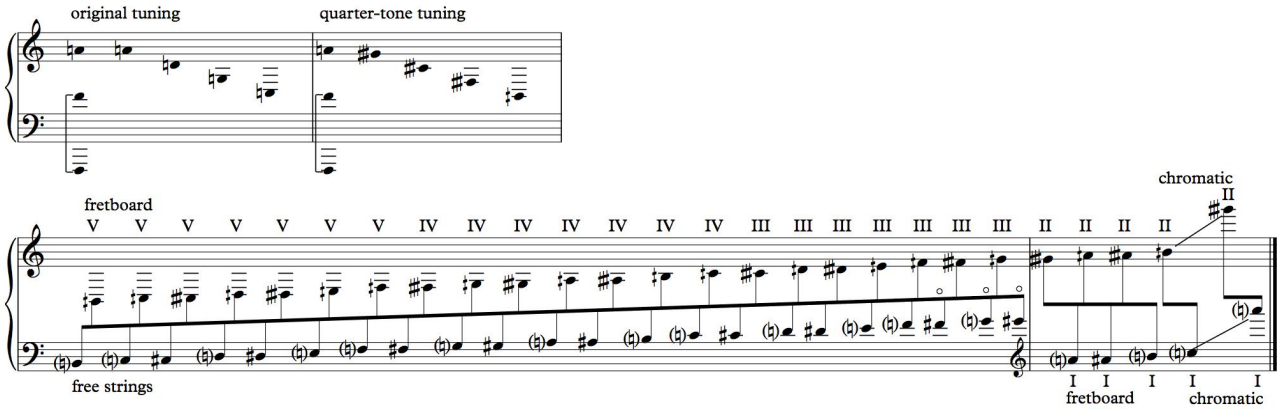
5. Cluster
On the **free strings** you can easily play cluster in an indicated range of strings.
You can pluck them by playing a very fast arpeggio or you can beat on the strings with hands or a tool like a percussion beater. Last one is very impressive on the lowest strings, this sounds like a tamtam or gran cassa beat.

6. Pure noise
6.1 Whiping along one or more strings with the flesh or the nails of one or more fingers.
This works only on wired strings - the deeper the string(s) the better. The effect is a kind of „white noise". The faster you whipe, the higher the sound. No concret pitch.
Continuos whiping to and fro (slowly) results a steady white noise, or (fast) like a tremolo-whiping on the felt of a drum. For single whipes you can also use a tool instead of the fingers, like a piece of cloth (very soft sound), a plastic ruler (quite sharp and loud sound), styropor or a piece of wood. Please mention, that there is often no difference hearable between different tools. In this case, you should mention the character of the noise in the score and let the player decide, which technique and tool is the best.
Please note: The original pitch of the string has hardly an effect on the frequency of the resulting noise, more important is the speed of whiping.
6.2 Scratching
On wired strings, you can scratch along the string with the nails of the finger or a plectrum. Like whiping, the speed of the action along the string changes the frequency of the noise.

7. Arco
7.1 Arco in general
You can use a bow (best: cello bow) to play on a string.
Attention: As all strings are strung up on a flat surface, you can only bow eather the first/highest fretboard string or the lowest free string. Comparable to stringed instruments (e.g. violin) the right hand bows the string while the left hand can be used to stop the string for pitches or harmonics.
7.2
On the first string of the fretboard (e.g. discant zither highest string a1) ist is possible to play „melodies" (bowed by right hand, strings stopped by the left hand) according to the chromatic frets. The resulting sound is quite raw, rather thin and „poor". Nervertheless this can be a nice effect, sounding like a medieval fiddle.
7.3
Bowing the lowest string of the free strings (e.g. discant zither F): This sounds like bowing a double bass. A quite intense effect. Of course you can tune this single string even lower to get a super-low bass sound.
7.4 Special effects with the bow
7.4.1 Harmonics
7.4.1.1 Harmonics on the low free string
Bowing the lowest string with the right hand an stopping the string on harmonic points with the left hand, you can get amazing sound effects, especially by producing very high harmonics or harmonic slides. The effect is comparable to harmonics/multiphonics or harmonic slides known from the bowed double bass or the double bass clarinet.

7.4.1.2 Harmonics on the highest fretboard string
If bow the strings with the right hand an stop the string on harmonic points with the left hand, you can produce crystal clear sounds like known from bowed crotales. As stringed harmonics are easier to produce than plucked one, you can use very high partials.
7.4.2 Pressato
Overpressing the bow results in a scratching sound like known from works of Lachenmann and other composers.

8. Microtonality
More than any other string instrument the zither is suitable for microtonal tunings and concepts.
As the zither is a combined instrument (fretboard and free strings) with different playing areas, it is rather easy to realize multiple tuning systems.
8.1 Example: Quartertone-tuning
Fretboard: only string II-V (a, d, g, c) are tuned a quartertone lower, string I (a) is tuned normal. In combination with the free strings you get a wide range of quatertone



9. Bartok-pizzicato
This effect is only playable on the fretboard. A particularly strong pizzicato where the string is plucked vertically by snapping and rebounds off the fingerboard of the instrument.
10. Tapping
Effect on the fretboard, played with fingers of the left hand. Tapping is a playing technique where a string is fretted and set into vibration as part of a single motion of being tapped onto the fretboard, without being plucked.
11. Tremolo
Effect on the fretboard. A single string is played with tremolo-technique with the plectrum on the right hand thumb.
12. Bending
Effect on the fretboard. You can change the fretted pitch by bending the string along the fret. Please note: You can only bend a certain pitch to a higher pitch (approximately a quartertone higher).

13. Electronic Effect Pedals
For the e-zither, you can use any electronic effect pedals known from the e-guitar (or e-bass guitar).

In an usual setup, Leopold Hurt uses the following pedals (including volume pedal):

overdrive/distortion & reverb:
Electro Harmonix „Turnip Greens"
https://www.ehx.com/products/turnip-greens

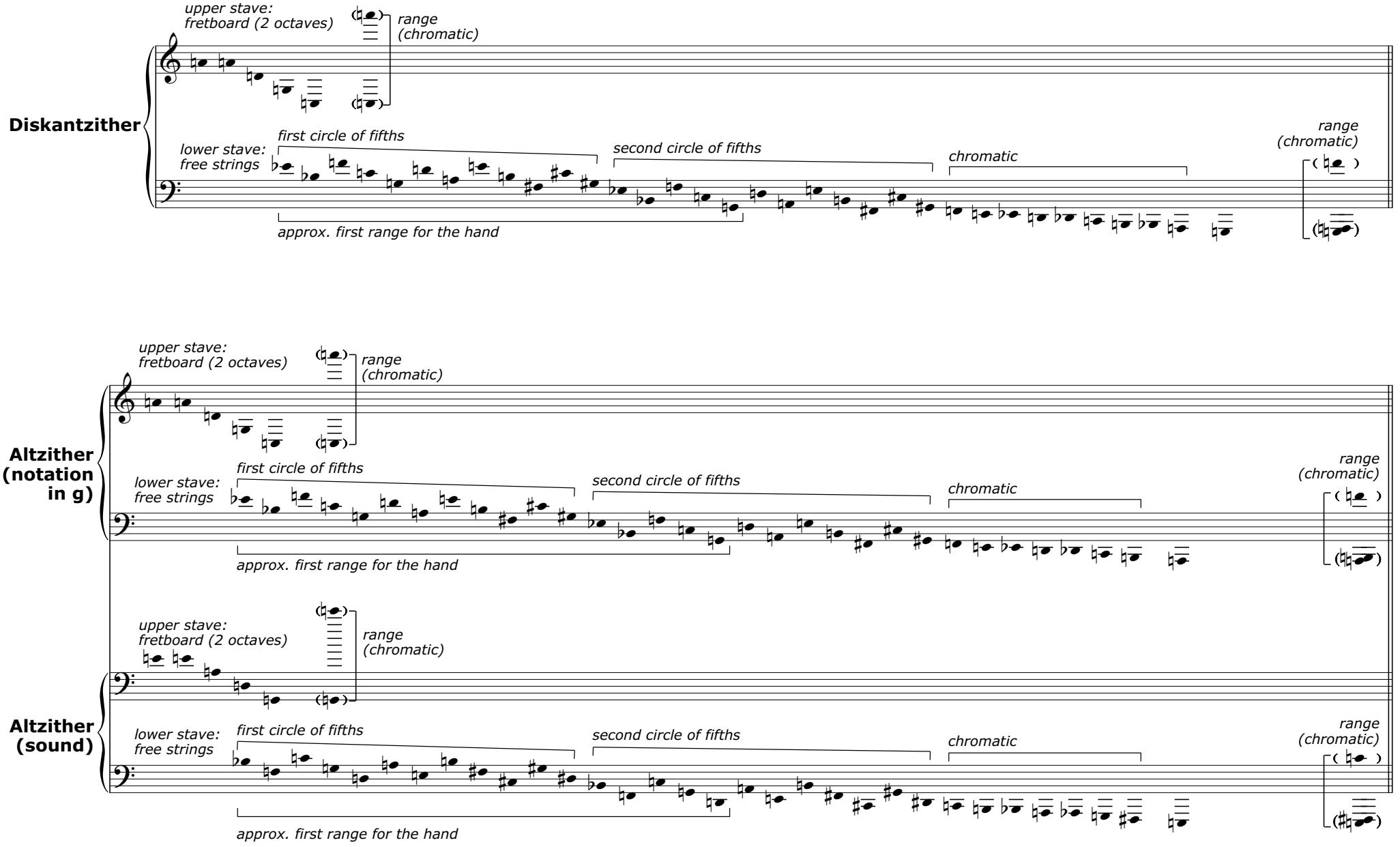
ringmodulator / pitchshifter / octaver (also chorus effects, vibrato effects):
Electro Harmonix „Ring Thing"
https://www.ehx.com/products/ring-thing

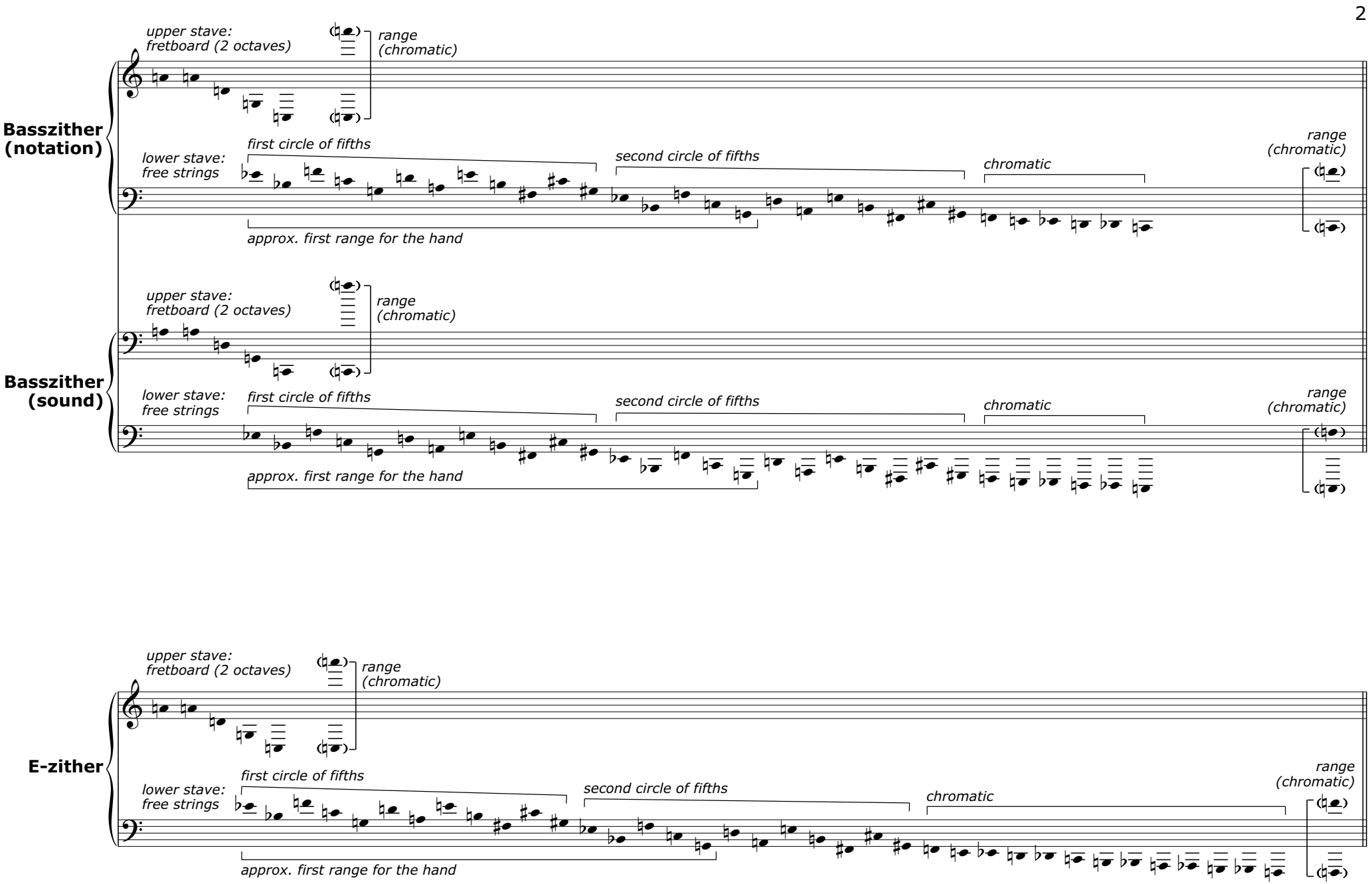
freeze:
Electro Harmonix „Superego"
https://www.ehx.com/products/superego

Please ask for further effects, if necessary.
info@leopoldhurt.de

Zither - notation and sound

Leopold Hurt




Basszither (notation)
upper stave: fretboard (2 octaves)
range (chromatic)
lower stave: free strings
first circle of fifths
second circle of fifths
chromatic
range (chromatic)
approx. first range for the hand
Basszither (sound)
upper stave: fretboard (2 octaves)
range (chromatic)
lower stave: free strings
first circle of fifths
second circle of fifths
chromatic
range (chromatic)
approx. first range for the hand
E-zither
upper stave: fretboard (2 octaves)
range (chromatic)
lower stave: free strings
first circle of fifths
second circle of fifths
chromatic
range (chromatic)
approx. first range for the hand

Andrej Koroliov, keys/performance

Owns:

- Grand Piano
- Midi-Controller (88keys (full piano range), 49 keys (4 octaves), 37 keys (3 octaves))
- Korg nano-key
- Korg nano-pad

For all kinds of Electronics, Sampling etc: Patches should be already programmed and if possible delivered with the score. I work preferential with Kontakt 6 and Max. Patches should be compatible to Mac (current operating system: MacOs Mojave 10.14.6)

Grand Piano: in case of inside preparations please contact me in time!

Performance or acting: possible!

Contact:
Mail: andrejkoroliov@gmail.com
Phone: +491744909727

Carola Schaal – clarinet

- favorit instrument: B-clarinet, the use of bass-clarinet only after agreement (please contact me)

- the use of my voice is possible (no professional singing education)

- growling-technique (a singing-technique which is known from Metal Music where “false chords” are used), must be amplified

- openminded towards Bodywork and performance (which you can check up in the Solo-project Bonny Crude)

- as soon as a performance part is related to a role work, please integrate a director or choreographer with suffisent rehearsal time and recherche done in preparation of the performance)

- only instrumental improvisation is not my passion but improvisation with performance and body work is possible

- a pure performance work is possible (at the moment, Carola Schaal is working on a further training)

- Examples: , with the Decoder Ensemble: Unterdeck with Heinrich Horwitz - Entitäten, Unterdeck with Popebama - Fight Songs, Alexander Schubert - CONTROL & Genesis & Acceptance, pieces from f.e. Brigitta Muntendorf - #AsPresentAsPossible, Jessie Marino - endless shrimps, Andreas Eduardo Frank - Table Talk, Matthew Shlomowitz - letter piece no. 5 Northern Cities, Michael Beil – Caravan

- Carola is also working on the gender-topic an role model

Contact:

Mail: bellacarola1@yahoo.de
Tel: +49-1773335205

Sonja Lena Schmid, Cello, Performance

Owns and uses effect pedals (if needed) such as:
RingThing (single sideband modulator), Octaver, Delay, Freeze, Distortion, Reverb etc.

Owns 2 extra cellos:
1 very cheap one for all kinds of risky performances or stunts
https://www.youtube.com/watch?v=0hCV-TG5fHM
https://www.youtube.com/watch?v=fBb548FtQFY

and 1 with built-in bluetooth loudspeaker for mobile use of tape or electronics
please get in contact for more information

Extras
singing (mezzo) and playing together (starting 1:26)
https://www.youtube.com/watch?v=dGm3ex-kSjs
https://soundcloud.com/louis-aguirre/siete-rayos-2015-for-solo-amplified-cello

can play standing (also walking, but not too long):
https://www.youtube.com/watch?v=wMH54JeYNF4

can play singing saw (Ok, not brilliant)

Contact:
Mail: sonjalena@gmx.de
+491795345708

Alexander Schubert, light, sound and electronics

- can perform (but just upon request), normally not on stage unless agreed upon beforehand

- in projects / shows can work as an outside eye

- can run live electronics, handle general artistic/digital/technology question

- audio and light technicians are present (who do the actual setting up, soundchecking, tech planning)

- can forward tech rider information to the house and so, but is not doing tech manager for bigger projects

Jonathan Shapiro, drums and percussion

-Usually we set up the percussion for Decoder as a sort of Augmented Drumset. That means that I sit by a traditional type of Drumset and extend the half-circle around myself with any further instruments, noise-makers, or electronics that the composer wishes. It is also possible to replace some of the drums or cymbals in the standard drumset with other instruments or objects as need be. If you want a different type of set-up, that is ok, but it would be great if we could talk about this in advance.

-Below is a list of some Instruments that I have at my disposal, there are too many small things and junk that I use as an instrument to list everything here. Small things that I don't have, I can also acquire, so feel free to ask.

-I am happy to improvise.

-I am happy to speak and/or do theatrics while playing the instrument, or also independant from the instrument.

-Basically I am pretty open to most things, but would request to have a brief contact with the composer while they're composing the piece to make sure everything with the instrumentation and setup is possible to realize.

Drumset + Standard Accessories (woodblocks, temple blocks, poly blocks, cowbells, tambourines, triangles, castanets, ratchets, flexatones, vibraslaps, sleigh bells etc.)

Lots of extra drums
Concert Bass Drum (Gran Cassa/Große Trommel)
Congas (2)
Bongos (2 paar)
Djembe
Zarb/Tonbak

Lots of extra cymbals (all types/sizes)

Tam Tams (12”, 28”)
Opera Gong/Gliss. Gong (small, Upwards gliss.)
Wind Gong (22”)
Tuned Cowbells (not all pitches)
Singing Bowls (small selection)
Pots and Pans
Spring Coils
Brake Drums
Various metal trash

Crotales (2 octaves)
Vibraphone

Toys, Music Boxes, variety of Noise Makers

Roland Octapad (SPD-11)
Alesis Percpad
E-Drumset (Cheapo/Chinese)
Roland Kick Controller
2x Logitech Attack 3 Joystick