

The Contemporary Zither

Definition

The mid-european zither is a plucked string instrument that has its 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 quartet. 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 Sometimes you can also find the (outdated) terms "concert zither" (in German „Konzertzither“) or "harp zither" (in German „Harfenzither“).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 to 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 facilitates 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 modified 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 struck 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 interpreter 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 be 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 harmonic 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 consultation 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 consultation with the interpret.

1.2.3 Third octave / double bass register

The deepest wound strings offer enormous possibilities playing with extremely 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 recognizable 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 differentiate.

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, Continuous Slides (bottleneck)

You can use a **bottleneck** for continuous slides on one or more strings simultaneously. The bottleneck is held 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 comparable 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, Continuous Slides (bottleneck)

You can use a **bottleneck** for continuous slides on one or more free strings simultaneously. The bottleneck is held 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.

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.
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Zither - notation and sound

Leopold Hurt

Diskantzither

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

Detailed description: This musical notation for the Diskantzither consists of two staves. The upper staff is a treble clef staff representing the fretboard over two octaves, with a bracket indicating a chromatic range. The lower staff is a bass clef staff representing the free strings. It is divided into two sections: the 'first circle of fifths' and the 'second circle of fifths', both with brackets. A 'chromatic' section follows. A final bracket on the right indicates another 'range (chromatic)'. A large bracket at the bottom of the lower staff spans the first two circles of fifths and is labeled 'approx. first range for the hand'.

Altzither (notation in g)

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

Detailed description: This musical notation for the Altzither (notation in g) follows the same structure as the Diskantzither. It has an upper treble staff for the fretboard (2 octaves, chromatic range) and a lower bass staff for the free strings. The lower staff is divided into 'first circle of fifths', 'second circle of fifths', and 'chromatic' sections. A final 'range (chromatic)' is indicated on the right. A large bracket at the bottom of the lower staff is labeled 'approx. first range for the hand'.

Altzither (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

Detailed description: This musical notation for the Altzither (sound) is identical in structure to the 'notation in g' version. It features an upper treble staff for the fretboard (2 octaves, chromatic range) and a lower bass staff for the free strings. The lower staff is divided into 'first circle of fifths', 'second circle of fifths', and 'chromatic' sections. A final 'range (chromatic)' is indicated on the right. A large bracket at the bottom of the lower staff is labeled 'approx. first range for the hand'.

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

Detailed description: This system shows the notation for a Basszither. The upper staff is a treble clef with a key signature of one flat (B-flat), containing a chromatic scale from G4 to G5. The lower staff is a bass clef with a key signature of one flat, containing a chromatic scale from G2 to G3. Brackets above the lower staff indicate the 'first circle of fifths' (G2-B2-D3-F3) and the 'second circle of fifths' (G3-B3-D4-F4). A bracket below the lower staff indicates the 'approx. first range for the hand'. A bracket on the right side of the lower staff indicates the 'range (chromatic)'. A diagram to the right of the upper staff shows a fretboard with two octaves of strings, with a bracket indicating the 'range (chromatic)'.

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

Detailed description: This system shows the sound of the Basszither. The notation is identical to the 'notation' system. The upper staff is a treble clef with a key signature of one flat, containing a chromatic scale from G4 to G5. The lower staff is a bass clef with a key signature of one flat, containing a chromatic scale from G2 to G3. Brackets above the lower staff indicate the 'first circle of fifths' (G2-B2-D3-F3) and the 'second circle of fifths' (G3-B3-D4-F4). A bracket below the lower staff indicates the 'approx. first range for the hand'. A bracket on the right side of the lower staff indicates the 'range (chromatic)'. A diagram to the right of the upper staff shows a fretboard with two octaves of strings, with a bracket indicating the 'range (chromatic)'.

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

Detailed description: This system shows the notation for an E-zither. The upper staff is a treble clef with a key signature of one flat (B-flat), containing a chromatic scale from G4 to G5. The lower staff is a bass clef with a key signature of one flat, containing a chromatic scale from G2 to G3. Brackets above the lower staff indicate the 'first circle of fifths' (G2-B2-D3-F3) and the 'second circle of fifths' (G3-B3-D4-F4). A bracket below the lower staff indicates the 'approx. first range for the hand'. A bracket on the right side of the lower staff indicates the 'range (chromatic)'. A diagram to the right of the upper staff shows a fretboard with two octaves of strings, with a bracket indicating the 'range (chromatic)'.