DAS WOHLPREPARIERTE KLAVIER II
THE WELL PREPARED PIANO II

For solo piano and ring modulation

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Das Wohlpreparierte Klavier II is a sequel to Das Wohlpreparierte Klavier I (2009) and uses the same ring modulation techniques. The richness of the ring-modulated piano sounds in WPK I inspired me to create a series of short pieces that make these sounds accessible to amateur players. With the addition of a short delay (0.25 sec.), these pieces also take on a rhythmic groove and a more dance-like character. Unlike WPK I, I used a quasi-tonal approach, which combined with the "untempered" ring modulation creates a vibrating, energetic texture that invites sonic exploration. Some pieces involve the possibility of improvisation.

Instructions

- The piano can be an upright piano or a grand piano

- At least two microphones should capture the sound of the piano, close to the instrument, one for the high register (focus C7), one for the mid-low register (focus A3). If an upright piano is used, the microphones can be placed behind the piano, close to the soundboard.

- One or two speakers close to the instrument (facing the audience) should mix the ring-modulated signal with the acoustic output, giving the illusion of a single sound source. Experimentation with sound balance is strongly recommended.

- The captured signal can be ring modulated by any kind of DAW capable of live ring modulation, sound delay and parametric equalising.

- On a piano tuned at 440 Hz, the following ring modulation frequencies should be applied:

  - 247 Hz (B3)
  - 831 Hz (G#5)
  - 2637 Hz (E7)

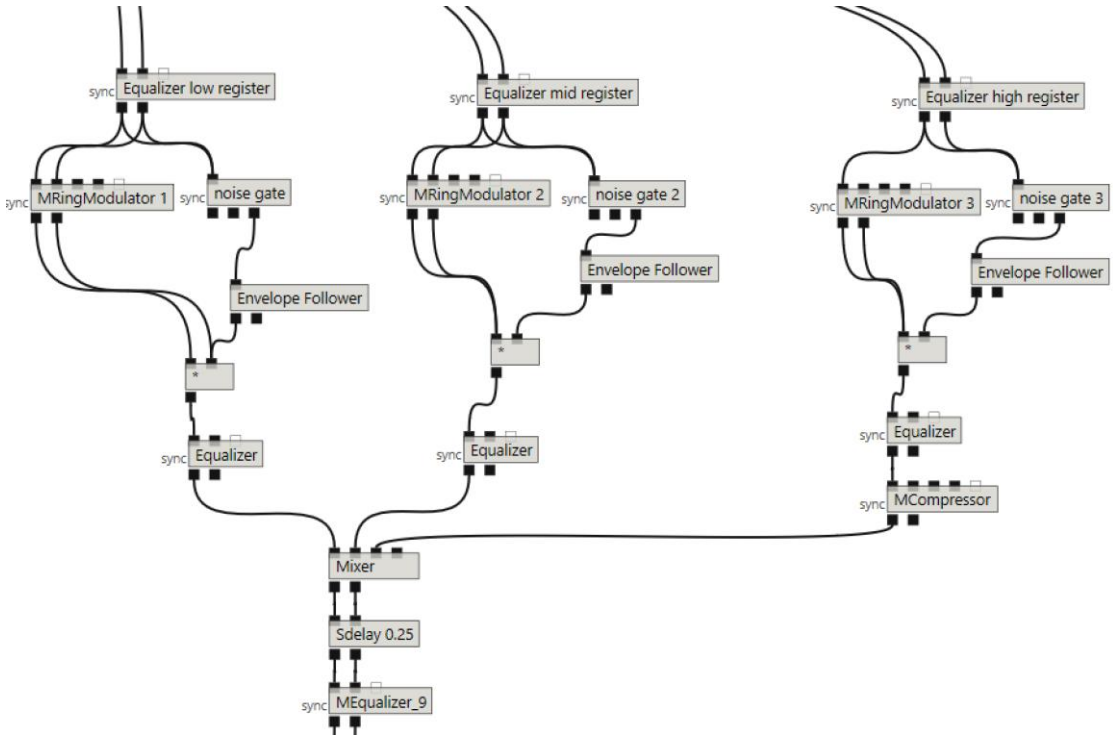
  Depending on the tuning of the piano and the amount of stretching in the highest octaves, the highest frequency can be adapted to achieve the desired ring modulation effects. Listen here for a recording of a ring-modulated scale on a piano tuned at 441.5 Hz.

- The same ring modulation and delay settings apply to all pieces (hence the reference to ‘prepared piano’).

- The signal should be equalised *before* passing through the ring modulation. The following can be a guide, but should be adapted depending on the characteristics of the piano and the loudspeakers used:
    - ring modulation 1 (247 Hz): high cut 500Hz
    - ring modulation 2 (831 Hz): low cut 700 Hz, high cut 2000 Hz
    - ring modulation 3 (2637 Hz): low cut 1100 Hz

- The three ring modulators are focused on specific registers in the piano. Optional noise gates and envelope followers can enhance a more register-focused ring modulation and block the excessive presence of ring modulators outside their target registers. However, a significant part of the effect is relying on the combination of ring modulated signals in different registers, leading to pitch ambiguity and microtonality. Overlap between registers should not to be avoided completely.

- Further equalising and sound compression per register after the ring-modulated signal may be necessary to achieve an optimal balance. The image below gives an example of a possible set-up:



Ring modulations on high frequencies may magnify acoustic differences between pianos, especially in the highest register, and therefore require an instrument-specific approach that deviates from the instructions above. Preparing the piano is an important part of the artistic realisation and needs your ears and taste!