

# WASBE WORLD



# X-ING for 5-string Electric Viola and Concert Band

by Martha Mooke

**W**hat do you get when you cross an electric viola with a concert band? (No, this is not a viola joke!). The answer: *X-ING* for Electric Viola and Concert Band!

I have been playing and composing for electric 5-string viola for over 25 years. I have developed a repertoire for this instrument by composing my own works and commissioning works by a wide range of established and emerging composers. A year after my first solo CD, *Enharmonic Vision*, was released, I began my long association with Yamaha, demonstrating their Silent and Electric Strings series and consulting with their design team at their Hamamatsu headquarters. As a performing artist/clinician, I travel around the country working with students and teachers to expand their creative sound palette by introducing and incorporating electric strings and improvisation into their musical vocabulary.

In my compositional process, I think of myself as an artist using a 3 dimensional palette of colors, or like a cook in a kitchen with strange and intriguing culinary ingredients. I might start with a concept and then sit down with my electric viola and effects pedals and begin experimenting with different sounds, sometimes combining several different pedals to create more complex effects. I may try different tunings, nontraditional ways of holding and playing the instrument, as well as percussive techniques. Sometimes I have no preconceived ideas and just start improvising, and then a magical moment occurs and the musical idea takes off from there.

While I've written many electric viola solo works, quartets, chamber and mixed works for student ensembles and chorus as well

as music for film, dance and stage, *X-ING* is my first large-scale work for solo 5-string viola with ensemble. My first work for electric viola and ensemble was "e-chi" which was composed for and premiered by the Percussion Plus Project at DePauw University.

*One technical note for clarification: any work written for 5-string viola with the range (C3 to E5) can also be played on a 5-string violin. For consistency sake in this article, I refer to the solo instrument as viola, even though a 5-string violin may also be used. Besides the difference in string length (which holds true for both acoustic and electric instruments) the soloist must also read both treble and alto clefs.*

Martha Mooke  
**X-ING**  
for 5-string Electric Viola or Violin  
and Concert Band



Vener Music Publishing  
Figure 1: *X-ING* title page

The idea for writing this work grew out of conversations with Ridgewood (New Jersey) Concert Band Director (and French Horn player) Chris Wilhjelm, during rehearsal breaks for an orchestra of which we were both members. The "cool" idea of crossing electric viola with concert band grew to become an actual commission, and attracted the attention of Arizona State University's Gary Hill who joined in as co-commissioner with the ASU Symphonic Wind Ensemble.

*X-ING* is the intersection, or crossing (as in road signs such as "School X-ing" or "Deer X-ing"), of three distinctive sound worlds: Symphonic wind ensemble, strings and electronics.

Scored for full symphonic band (including harp), there are three movements characterizing three kinds of *X-ING* concepts:

- I. Pegasus *X-ING* (*the mythical winged horse at the intersection of rainbow and sky*)
- II. *X-ING* Over (*the transitional crossing that occurs when the breath leaves the body*)
- III. Double *X-ING* (*To double cross, or betray by acting in contradiction to a prior agreement*)

## Viola as a transposing instrument!

There are occasions in *X-ING* where the actual sounds created by the viola in combination with the effects do not accurately represent what is notated. In these cases, the solo line is written on 2 staves in the score, the top line for traditional score notation and the second line representing the sounding notation, or the resultant sound of a particular effect (I'll delve into this a little later.). The solo instrument can be either a 5-string electric viola or 5-string electric violin, as long as the strings are tuned in fifths (C3-G3-D4-A4-E5.) The middle movement, however, *X-ING* Over, uses non-traditional tuning (scordatura) with the low string tuned down to Bb, then F-Db-Ab-Eb. For performance purposes it makes sense to use a second, pre-tuned instrument, rather than to stop the flow of the piece by retuning one instrument before and after the second movement. This special tuning allows the instrument's open strings and harmonics to ring out in the same Bb tuning as the band.

The effects that the soloist employs are pitch shifting (octave up and down), delay (including live looping), reverb and wah-wah (see below for explanations of effects). There are several ways to achieve the desired results, the most common being foot pedals (the kind guitar players use), although there are computer software programs that may also be used to process the sound (see Figure 2).

I began composing *X-ING* in January 2012, while I was a composer fellow at the MacDowell Colony in the woods of Peterborough, New Hampshire. The colony is famous for the tradition of delivering lunch, to each of the artist studios, in picnic baskets. It's a very inspiring place, despite the 5° Fahrenheit temperature that appeared on my iPhone weather app quite often! It happened that during my residency at MacDowell, my dear uncle Fred fell seriously



Effects Indicated:

LOOP	= Create loop of indicated material
Octave Down	= Pitch shift down one octave
Octave Up	= Pitch shift up one octave
GallopDly	= Multitap delay to create specified rhythm
MedRvbDly	= Moderate Reverb with Moderate Delay
MedRvbDist	= Moderate Reverb with Moderate Distortion
Long Dly	= Long Delay
MedRvb/InfEcho	= Moderate Reverb with Infinite Echo (creates cluster)
WahWah	= WahWah effect

Figure 2: Electronics processing key for solo electric viola or violin

ill and I needed to be involved via long distance. Although the artist residency is a sacred place for one to be isolated and protected, so as to focus on one's creative output, the gravity of this real life situation filtered into my little studio in the woods. I understood this was a transitional time for my uncle, myself and loved ones, and that notion became the basis of the second movement, *X-ING Over*.

### Pegasus X-ING

This opening movement evokes the mythological winged horse grazing peacefully in the midst of an enchanted meadow. The fairy-tale imagery is conjured up by the fluttering of flutes, glockenspiel and harp, which awaken a slumbering landscape. Pegasus, as personified by the solo viola, wakes from a dream – walking, finding its rhythmical gait, accelerating to a gallop and with a final magical gesture, takes flight.

In this work, the solo electric viola or violin at times becomes a transposing instrument. In other words, the notation that is written is not what the subsequent sound is coming from the loudspeakers. For example a particular effect may result in one note being played which produces a series of notes in a predetermined rhythm, or the viola may play a note in one octave and the resultant note is an

The image shows two staves of musical notation. The top staff is labeled 'E. Vla.' and contains a single note with a dynamic marking of *ff*. The bottom staff is labeled 'Effect' and contains a rhythmic pattern of notes, also with a dynamic marking of *ff*. A box above the Effect staff contains the text 'Gallop dly (multitap delay to create specified rhythm)'.

Figure 3: Mvt. I, example of notation based on digital delay effect

The image shows a page of a musical score for a chamber ensemble. The instruments listed are Ob. 1, Ob. 2, Cl. 1, Cl. 2, B. Cl., Bsn. 1, Bsn. 2, E. Vla., and Effect. The E. Vla. part is marked '2x solo ad lib' and 'ff'. The Effect part shows a complex rhythmic pattern. The score is in 4/4 time and features various dynamics like *mf* and *ff*.

Figure 4: Example of rhythmic notation derived from viola effects

octave below the range of the instrument. It is therefore necessary to add a second line of notation so that the conductor can see the rhythm or effect that is actually heard.

Figure 3 is an example of notation based on digital delay. In my effects pedal, I modified the parameters of the delay setting (ie, delay type and time) to create the rhythm I wanted to work with. I named it "Gallop" because later on in the movement the soloist begins to change bowing patterns from a wild spiccato to a rhythmic ricochet bowing (while stopping the strings with the left hand.) This creates a brushy, percussive sound with no audibly perceived pitches and is intended to elicit the image of Pegasus galloping through the sky. For the most part, any player with some experience working with effects processing will understand and be able to reasonably replicate the effects called for in the score (if not, they are sure to have guitar playing or tech savvy friends to call for help!).

These rhythms created by the viola in combination with effects are then recreated in the band on acoustic instruments so the ensemble takes on the role of both sound source AND effect (ie, notated echo effect in the winds or flutes taking on the gestures of an offset delay effect) (see Figure 4).

The final gesture of the movement is the soloist creating a galloping effect using a form of ricochet bowing in combination with the effects (the same effect used to create the rhythmic motif). Starting slowly, the trumpets emulate the call of the winged horse, while the accelerando of the rhythmic ricochet bow technique creates the effect of Pegasus taking flight (see Figure 5).

### X-ING Over

In my performances of *X-ING*, I use a looping device to loop (record/repeat live on the spot) the Gallop motif at the end of movement I, so that I can change instruments to the pretuned scordatura viola or violin. With subtle use of a volume pedal, this creates the illusion of Pegasus galloping off into the sunset.

The image of the second movement, *X-ING Over*, is that of a ship setting sail across a peaceful body of water, with the somber toll of the bell and the all but imperceptible motion as it glides from one shore to the next.

In this movement the instrumentation is reduced to a chamber choir, or more aptly, 3 chamber choirs, with muted brass, winds, percussion, and features the harp with the solo viola. Here, the solo viola fully understands what it's like to be a transposing instrument. The open C string harmonic resonates with the band's tuning pitch of Bb.

Figure 5 is a musical score for a concert band. It features four flute parts (Fl. 1-4), four trumpet parts (Tpt. 1-4), an electric viola part, and an effects part. The flute parts begin with a rhythmic pattern of eighth notes, marked with a piano (*p*) dynamic. The trumpet parts enter later with a similar rhythmic pattern, marked with a forte (*f*) dynamic. The electric viola part features a looping effect, marked with a mezzo-forte (*mf*) dynamic. The effects part includes a 'non-pitched air sound effect' and a 'LOOP' section. The score is annotated with 'non-pitched air sound effect', 'LOOP', and 'to retuned Electric Viola'. Dynamics range from *p* to *ff*.

Figure 5: Rhythmic bow technique becomes galloping rhythm

Figure 6 is a musical score for a concert band, titled "Crossing over". It features parts for Horns 1-2, Trombones 1, 2, Baritone, Euphonium, Tuba, Electric Viola, Effects, Harp, Vibraphone, and Percussion 1-2. The score is marked with a tempo change to "Slightly faster, ♩=38". The electric viola part is marked with a dynamic of *pp* and a tempo marking of "molto rubato". The harp part is marked with a dynamic of *p*. The percussion parts are marked with a dynamic of *p*. The score is annotated with "Slightly faster, ♩=38", "ModRbbDly", and "molto rubato". Dynamics range from *pp* to *p*.

Figure 6: "Crossing over"

The tubular bell and vibraphone, moving in unison, become the ship's bell, tolling the same Bb7 inverted chord throughout the movement. It is the crotales that gradually "cross" through the measures, moving one 8<sup>th</sup> note of a quintuplet figure every few bars until the crossing is complete.

The mournful, yet meaningful opening motif in the brass, the tide ebbing and flowing, is ultimately passed on to the winds. The harp portrays the pilot, and the solo viola/violin the embodiment of the spirit (see Figure 6).

## Double X-ING

From the contemplative peacefulness of the middle movement, *Double X-ING* bursts open with an effects-driven cadenza, the solo

electric viola looping, layering and building to a frenzied pitch. Not to be "double crossed" for long, the band takes back control from the power hungry soloist. With rhythmic precision, this rock infused finale is propelled through shifting meters, dynamic motivic interplay, and timeless interweaving textural harmonies. The band metaphorically circles the wagons (a term held over from the Wild West) and members of the ensemble are set loose for a round of solo improvisations culminating in a jam between band soloists and the electric viola soloist.

When I'm writing for a particular ensemble, like the Ridgewood Concert Band or Arizona State University Wind Symphony, I will ask the music director if there are particularly strong players or if there is something particular of interest that I might feature to make it a unique performance experience. For example, in the last movement

of *X-ING*, there is an open section for members of the bands to improvise. For the Ridgewood performance, there was a trumpet player, a vibraphonist and a saxophonist. For the ASU performance, a very brave, young (and female!) bassoonist who had never improvised before, stood up for a solo and it was amazing! For encouragement, I told them that in this particular improv section there are no wrong notes, and they should open themselves up (closing their eyes, if necessary!) to the moment and the groove (in this case, a rock fusion pulse).

The action returns for a brief moment, with only enough time for the music to come to a screeching halt. As if diving into the waves, the undulating motion of the full band and soloist, trying to come up for air, take a stuttering gasp, and then lunge once more to the depths of the metaphorical ocean. The band's build up of complex chords is matched by the solo viola's use of reverb and layering with digital delay (see Figure 7).

The closing section of the work begins with a furious viola chase motif, (doubled by marimba and vibraphone), using a classic wah-wah effect. The brass answer with their own wah-wah effect using hand or plunger mutes (see Figure 8).

The full ensemble joins in for a sprint to the end, but not before a final show of defiance by the solo viola in the guise of an overdriven power grab. As if to show there are no hard feelings, a unified musical fist bump slams the door with an impish percussive wink.

*X-ING* was co-commissioned by the Ridgewood Concert Band and ASU Wind Symphony. Premiere performances were conducted by Christian Wilhelm (RCB) and Gary Hill (ASU).

Score/audio/video of the ASU performance are available at: <http://marthamooke.com/x-ing>

#### Glossary of effects

*Pitch shifting* – technique in which the original pitch of a sound is raised or lowered.

*Delay* – makes a digital recording of the sound, and plays it back at a user-selectable time delay, (example is echo)

*Reverb* – (Short for reverberation) allows you to control the perceived size of the room in which you're performing. (ie, singing in a cathedral vs. your bedroom)

*Wah-Wah* – an effect that mimicks the human voice saying "wah-wah"

*Looping* – live sample that is triggered on and off and can playback infinitely. Often used to create a backing track that can be played over or layered.

The score for Figure 7 shows a full ensemble of brass instruments (Horn 1-4, Trumpet 1-2, Baritone Trumpet, Euphonium, and Tuba) and an Electric Viola. The brass instruments play a rhythmic pattern starting with a forte (*ff*) dynamic, which then transitions to a mezzo-forte (*mp*) dynamic. The Electric Viola part features a complex, layered melody with digital delay effects, indicated by a box labeled "MedRvb/InflEcho" and the note "(each new pitch is layered to create cluster)". The viola part starts with a piano (*p*) dynamic and builds up to a fortissimo (*ff*) dynamic, marked with "cresc." and "mp cresc.".

Figure 7: The chord build up of the full ensemble with electric viola's digital delay layering

The score for Figure 8 shows four trumpet parts (Tpt. 1-4) and an Electric Viola. The trumpet parts are marked with a forte (*ff*) dynamic and feature a "wah-wah effect" indicated by a box above the staves. The Electric Viola part is marked with a forte (*ff*) dynamic and features a "Wah Wah" effect indicated by a box below the staff. The viola part consists of a complex, rhythmic pattern of notes.

Figure 8