

*A Survey of Performance  
Practice of Electroacoustic  
Music for Wind Band Grades 2-3*

Kansas Music Educators Conference  
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PRESENTED BY

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MUSIC & THEATRE  
at Baker University

## INTRODUCTION

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Electro-acoustic music for wind band is an emerging genre among contemporary composers that incorporates and blends an electronic soundtrack and cues with traditional wind instruments (Perez, 2015; p.iii). Composers are exploring new sonic colors through electronics that expand the traditional palette beyond that offered by acoustic instrument. As technology improves, composers are increasingly able to incorporate electronic sounds into their compositions in an easier, more organic, and seamless manner, thus reducing the challenges in rehearsing and performing this new repertoire (Perez, 2015, p.35). Conductors may be required to understand and to acquire new skills when preparing this literature including becoming comfortable using headphones to follow a “click track” metronome and an audio track with the electronic sounds while conducting in performance. To integrate electronic sounds with live musicians, the conductor must have a comprehensive understanding of the technologies involved. These challenges and considerations may discourage conductors from programming electro-acoustic repertoire. Yet there is a wealth of excellent new music in this genre that would be beneficial for students and enjoyable for audiences. There is a need to have appropriate models illustrating how these various elements work independently and how they are brought together and used to build a sequential rehearsal progression. As technology continues to make it easier to integrate electronic sounds into electro-acoustic music, the process will become more seamless. Composer Steven Bryant states, “we will no longer talk about ‘electro-acoustic’ music” but simply accept it as a “standard possibility” (Perez, 2015, p.iii). This presentation will survey some of the technology and performance considerations as they relate to rehearsal preparation and performance of three grade 2 to 3 wind band works: *Paper Cut* (2010) by Alex Shapiro and *Coil* (2014) and *The Machine Awakes* (2012) by Steven Bryant.

\* Material for this handout is excerpted from my doctoral dissertation (Perez, 2015).

## List of Composers and Their Websites (Perez, 2015, p.40)

\* Links are clickable in PDF Version

Noah Angott	<a href="http://www.noahangott.com">http://www.noahangott.com</a>
Devin Arne	<a href="https://devinarne.com/">https://devinarne.com/</a>
Mason Bates	<a href="http://www.masonbates.com">http://www.masonbates.com</a>
Thomas Rex Beverly	<a href="http://www.thomasrexbeverly.com">http://www.thomasrexbeverly.com</a>
Christopher Biggs	<a href="https://christopherbiggsmusic.com">https://christopherbiggsmusic.com</a>
Scott Blasco	<a href="https://scottblasco.com">https://scottblasco.com</a>
B.J. Brooks	<a href="https://octatone.com">https://octatone.com</a>
Cody Brookshire	<a href="https://www.codybrookshire.com">https://www.codybrookshire.com</a>
Steven Bryant	<a href="http://www.stevenbryant.com">http://www.stevenbryant.com</a>
Budiansky Mollie	<a href="https://molliebudiansky.com">https://molliebudiansky.com</a>
Britt Andrew Burns	<a href="https://brittandrewburns.com">https://brittandrewburns.com</a>
Derek Charke	<a href="https://www.charke.com">https://www.charke.com</a>
Jay Chattaway	<a href="https://www.barnhouse.com/composer/jay-chattaway">https://www.barnhouse.com/composer/jay-chattaway</a>
James M. David	<a href="http://www.jamesmdavid.com">http://www.jamesmdavid.com</a>
Eli Fieldsteel	<a href="http://www.elifieldsteel.com">http://www.elifieldsteel.com</a>
Gavin Fraser	<a href="https://www.gfrasermusic.com">https://www.gfrasermusic.com</a>
Tyler S. Grant	<a href="https://www.tylersgrant.com">https://www.tylersgrant.com</a>
Von Hansen	<a href="http://vonhansenmusic.com">http://vonhansenmusic.com</a>
Jeffrey Hass	<a href="http://jeffreyhass.org">http://jeffreyhass.org</a>
Derek Jenkins	<a href="https://www.derekmjenkins.com">https://www.derekmjenkins.com</a>
Jerker Johansson	<a href="https://www.prestoclassical.co.uk/sheet-music/composers/48548--johansson-jerker">https://www.prestoclassical.co.uk/sheet-music/composers/48548--johansson-jerker</a>
Ted King-Smith	<a href="https://www.tedkingsmith.com/">https://www.tedkingsmith.com/</a>
Robert Langenfeld	<a href="https://www.rlcompositions.com">https://www.rlcompositions.com</a>
Michael, Markowski	<a href="https://www.michaelmarkowski.com">https://www.michaelmarkowski.com</a>
James Mobberley	<a href="https://jamesmobberleymusic.com">https://jamesmobberleymusic.com</a>
Daniel Montoya	<a href="http://danielmontoyajr.com">http://danielmontoyajr.com</a>
Martha Mooke	<a href="http://www.marthamooke.com">http://www.marthamooke.com</a>
Craig Thomas Naylor	<a href="https://craigthomasnaylor.com">https://craigthomasnaylor.com</a>
Aaron Perrine	<a href="https://aaronperrine.com">https://aaronperrine.com</a>
Vince Oliver	<a href="https://vinceoliver.com/?project=press-play">https://vinceoliver.com/?project=press-play</a>
José Alberto Pina	<a href="https://josealbertopina.com">https://josealbertopina.com</a>
Ben Robichaux	<a href="http://www.benrobichaux.com">http://www.benrobichaux.com</a>
Jennifer E. Rose	<a href="https://www.composerose.com">https://www.composerose.com</a>
Jessica Rudman	<a href="https://www.jessicarudman.com">https://www.jessicarudman.com</a>
Alex Shapiro	<a href="http://www.alexshapiro.org">http://www.alexshapiro.org</a>
Judith Shatin	<a href="https://www.judithshatin.com">https://www.judithshatin.com</a>
Amber Sheeran	<a href="https://www.sheeranmusic.online">https://www.sheeranmusic.online</a>
Steven Snowden	<a href="https://stevensnowden.com">https://stevensnowden.com</a>
Randall Standridge	<a href="http://randallstandridge.com">http://randallstandridge.com</a>
Christopher Stark	<a href="http://www.christopher-stark.com">http://www.christopher-stark.com</a>
Erika Svanoë	<a href="https://erikasvanoë.sellfy.store">https://erikasvanoë.sellfy.store</a>
Tina Tallon	<a href="https://tinatallon.com">https://tinatallon.com</a>
Christopher Tucker	<a href="http://www.tuckermusicworks.com">http://www.tuckermusicworks.com</a>
Benjamin Dean Taylor	<a href="https://www.benjamin Taylormusic.com">https://www.benjamin Taylormusic.com</a>
Alex Tedrow	<a href="https://www.alextedrow.com">https://www.alextedrow.com</a>
Christopher Tucker	<a href="https://tuckermusicworks.com">https://tuckermusicworks.com</a>
Peter Lane Van Zandt	<a href="https://www.petervanzandtlane.com">https://www.petervanzandtlane.com</a>

# LIST OF ELECTRO-ACOUSTIC WORKS FOR WIND BAND BY GRADE

Updated, January 2025

A Chance Taken (6:00)	2017	Angott, Noah	N/A	NoahAngott.com
Solaris (10:13)	2019	Arne, Devin	3.5	Devin Arne
Catharsis: Open Style for One Large and One Small Improvisation Ensemble, Tape, and Conductor (9:00)	1965	Austin, Larry	N/A	N/A
Quadrants: Event/Complex No. 1 w/tape (9:00)	1972 /1994	Austin, Larry	4	Peermusic Classical
Chicago 2012 for Band	2012	Bates, Mason	5	APHRA Music (Rental)
Mothership (9:00)	2011	Bates, Mason	4	APHRA Music (Rental)
Rusty Air in Carolina (13:00)	2006	Bates, Mason	4	APHRA Music (Rental)
14,409' for Wind Ensemble & Seasonal Electronics (6:00)	2015	Beverly, Thomas Rex	N/A	Thomas Rex Beverly
Ringing Rocks (6:00)	2011	Beverly, Thomas Rex	3.5	Thomas Rex Beverly
Extinction (8:00)	2015	Biggs, Christopher	5	Bat and Crab Media
Object Metamorphosis (12:00)	2010	Biggs, Christopher	N/A	Bat and Crab Media
<a href="#">Monument III (10:00)</a>	2015	Blasco, Scott	4	ScottBlasco.com
The Butterfly Chaser (6:12)	2020	Brooks, B.J.	6	Alfred Music
Honeycomb (5:00)	2016	Brookshire, Cody	5	CodyBrookshire.com
Synthetic Sunlight (6:30)	2023	Bryant, Steven	Med	StevenBryant.com
The Automatic Earth (31:00)	2019	Bryant, Steven	Adv	StevenBryant.com
Coil (5:00)	2014	Bryant, Steven	3/4	StevenBryant.com
Ecstatic Waters (22:00)	2008	Bryant, Steven	5	StevenBryant.com
Machine Awakes, The - Flex Band (5:00)	2020	Bryant, Steven	2/3	StevenBryant.com
Machine Awakes, The (5:00)	2012	Bryant, Steven	2/3	StevenBryant.com
Solace (14:00)	2012	Bryant, Steven	5	StevenBryant.com
Cyberspace (1:34) – Flex Band	2021	Budiansky, Mollie	1	Aerial Music
Disconnect (3:40)	2021	Burns, Britt Andrew	4	Indie Classical Publications
Falling from Cloudless Skies (15:00)	2009	Charke, Derek	N/A	Canadian Music Center
Song of the Tides (10:00)	2006	Charke, Derek	2.5	Canadian Music Center
The Universe Is Full of Doors (60:00)	2019	Chase, Ryan	N/A	RyanChaseMusic.com
Captain Video w/CD <i>optional</i> (3:45)	1982	Chattaway, Jay	1.5	Murphy Press
All Dark Is Now No More (8:30)	2014	David, James M.	4	jamesdavid.com/Murphy Press
Troublesome Fire (12:00)	2022	David, James M.	5	Murphy Press
Purple Roofed Ethical Suicide Parlor, The (10:00)	1972	Erb, Donald	5	Theodore Presser Company
Stargazing (3:00)	1966	Erb, Donald	4	Theodore Presser Company
Singularity (15:00)	2014	Fieldsteel, Eli	4	Eli Fieldsteel
Between the Sea and Rhyl (12:30)	20172 018	Fraser, Gavin	N/A	Gavin Fraser Music
Downtown Strut - Flex Band (1:15)	2021	Grant, Tyler, S.	Easy	Theodore Presser Company
All The Bells and Whistles	1997	Hass, Jeffrey	4	Manhattan Beach Music
Lost In The Funhouse (13:39)	1994	Hass, Jeffrey	5	Ludwig Masters Publications
Blue Marble: A Symphony for Wind Ensemble (18:00)	2016	Jenkins, Derek	5	Derekmjenkins.com

Into Air, Into Thin Air (17:00)	2023	Jenkins, Derek	5	Derekmjenkins.com
Missing Man w/CD sound effects (3:00)	2005	Johansson, Jerker	3.5	Arrangers Publishing Co
Five-Note Jive (1:35) – also available for Flex Band	2020	Keifer, Ed	0.5	C. Alan Publications
God Rest Ye Merry, Peeps (2:28)	2013	Keifer, Ed	1	C. Alan Publications
Hip Hop Hallelujah! (2:35)	2012	Keifer, Ed	1	C. Alan Publications
New World Breakdown (2:05) – Flex Band	2020	Keifer, Ed	1	C. Alan Publications
Orpheus In The Urbanworld (2:19)	2013	Keifer, Ed	1	C. Alan Publications
Thumpin' With the Good King (1:58)	2014	Keifer, Ed	1	C. Alan Publications
Between Glimpses of Blue ()	2016	King-Smith, Ted	4	Murphy Press
Duality (8:41) – <i>also available for Flex Band</i>	2023	Langenfeld, Robert	Easy	Robert Langenfeld
Excelsior! (4:00) – also available for Flex Band	2019	Langenfeld, Robert	Adv	Robert Langenfeld
Phaseshift (6:00)	2019	Langenfeld, Robert	Adv	Robert Langenfeld
Sonic BOOM!!! (5:00)	2016	Langenfeld, Robert	Adv	RL Compositions
Symphony No. 1 "The Great Machine" (30:00)	2019	Langenfeld, Robert	Adv	Robert Langenfeld
UFO March (3:49)	2024	Langenfeld, Robert	Med	Robert Langenfeld
Cycle (7:00)	2022	López Sánchez, Pedro Ángel		Tot per l'Aire Music Editions Hal Leonard, Europe
Drawing Mars - Flex Band	2021	Markowski, Michael	Easy	MichaelMarkowski.com
Ascension (8:00)	2010	Mobberley, James	6+	JamesMobberleymusic.com
Axe To Grind (3:36)	2019	Montoya, Daniel	2.5	Montoya Music
Garage Band (4:45)	2015	Montoya, Daniel	3.5	Montoya Music
X-ing (14:00) (solo electric viola & concert band)	2012	Mooke, Martha	N/A	Vener Music Publishing
Voices of Water and Spirit (8:20)	1998	Naylor, Craig Thomas	3	Swan River Press, Inc.
Sinfonia Resurrectionis	1981	Nelhybel, Vaclav	6	HarabraMusic.com
Press Play (6:20)	2017	Oliver, Vince	4.5	World Projects
Bluebonnet Drift (8:00)	2021	Perrine, Aaron	Med	aaronperrine.com
Bermuda Triangle	2010	Piña, José Alberto	N/A	Molenaar
Ghost Ship	2017	Piña, José Alberto	5	Molenaar
Island of the Light	2012	Piña, José Alberto	N/A	Molenaar
Pedro	2018	Robichaux, Ben	N/A	BenRobichaux.com
Bitscapes (3:16) – also available for 3-part Adaptable Ens.	2021	Rose, Jennifer, E.	3	Composer Rose Pub., LLC.
Imminent Danger (3:27)	2023	Rose, Jennifer, E.	3	Randall Standridge Music
In The Distance (2:08) 2-Part Adaptable Ensemble	2020	Rose, Jennifer, E.	Beg	Composer Rose Pub., LLC.
Lost Valley (3:39)	2021	Rose, Jennifer, E.	4	Composer Rose Pub., LLC.
Metaphysical Travels (2:24)	2020	Rose, Jennifer, E.	Easy	Composer Rose Pub., LLC.
Mystic Embers (2:34)	2021	Rose, Jennifer, E.	3	Composer Rose Pub., LLC.
Techno Glitch (2:03) - Flex Band	2020	Rose, Jennifer, E.	Easy	Composer Rose Pub., LLC.
The Veil Nebula (2:16)	2019	Rose, Jennifer, E.	3	Composer Rose Pub., LLC.
Twisted (1:59) 3-Part Adaptable Ensemble	2020	Rose, Jennifer, E.	Med	Composer Rose Pub., LLC.
From the Blue Fog (11:50)	2009	Rudman, Jessica	5	JessicaRudman.com
Ascent (3:00)	2020	Shapiro, Alex	4	Activist Music

Breathe (10:00)	2020	Shapiro, Alex	4/5	Activist Music
Count to Ten - Flex Ensemble (3:00)	2021	Shapiro, Alex	0.5	Activist Music
Depth (8:00)	2010	Shapiro, Alex	4	Activist Music
Distanced (9:00)	2021	Shapiro, Alex	4+	Activist Music
Homecoming	2008	Shapiro, Alex	4	Activist Music
Kitchen Sync (1:10)	2021	Shapiro, Alex	3	Activist Music
Liquid Compass (9:00)	2014	Shapiro, Alex	5	Activist Music
Masked (5:00)	2021	Shapiro, Alex	4	Activist Music
Moment (6:00)	2016	Shapiro, Alex	4	Activist Music
Off the Edge (3:00)	2019	Shapiro, Alex	2.5	Activist Music
Passages - Flex Ensemble + Soloist (3:00)	2020	Shapiro, Alex	2.5-4	Activist Music
Pop Music (4:00)	2022	Shapiro, Alex	3.5	Activist Music
Recycled Music (4:15)	2024	Shapiro, Alex	2.5	Activist Music
Rock Music (4:00)	2016	Shapiro, Alex	2.5	Activist Music
Slump (3:33)	2024	Shapiro, Alex	2.5	Activist Music
Suspended (28:00)	2021	Shapiro, Alex	5	Activist Music
Trains of Thought (7:00)	2016	Shapiro, Alex	4	Activist Music
Viral (6:00)	2021	Shapiro, Alex	5	Activist Music
Immersion 3 mvmts. Depth, Beneath, Surface. (23:00)	2011	Shapiro, Alex	4/5	Activist Music
Lights Out (5:00)	2015	Shapiro, Alex	4	Activist Music
Paper Cut (5:00)	2010	Shapiro, Alex	3	American Composers Forum
Tight Squeeze (3:00)	2012	Shapiro, Alex	4	Activist Music
Being in Time (10:00)	2015	Shatin, Judith	N/A	Wendigo Music
Remains of An Ancient Sea (1:48) – Flex Band	2021	Sheeran, Amber	0.5	Murphy Press
Long Distance, Solo Perc. & Wind Ensemble (14:00)	2016	Snowden, Steven	N/A	Talking Rocks Press
Circuit Breaker (3:16)	2017	Standridge, Randall D.	1.5	FJH Music Company Inc.
Deus Ex Machina (5:00)	2019	Standridge, Randall D.	4	Randall Standridge Music
High Voltage (2:26)	2017	Standridge, Randall D.	1.5	FJH Music Company Inc.
New Era Fanfare (2:40)	2013	Standridge, Randall D.	2	Grand Mesa Music Pub.
Augenblick (13:30)	2008	Stark, Christopher	5	Sommerso Publishing
Velocity Meadows (11:30) (solo oboe, chamber winds, electronics & video)	2015	Stark, Christopher	5	Sommerso Publishing
Band of Heroes (6:40) (Choose Your Ending!)	2018	Svanoe, Erika	3	Swan Maiden Press
Haunted Carousel (4:20)	2014	Svanoe, Erika	3	Alfred Music
Anthropogenic Tides (12:00)	2017	Tallon, Tina	N/A	TinaTallon.com
Only You Know (6:30)	2020	Tallon, Tina	N/A	TinaTallon.com
Earth Resonance (5:30) – Flex Band	2019	Taylor, Benjamin Dean	3	Benjamintaylormusic.com
Electric Breakdance (1:38) – also available for Flex Band	2019	Taylor, Benjamin Dean	1.5	Benjamintaylormusic.com
Intermountain Underground (3:30) – also available for Flex Band	2020	Taylor, Benjamin Dean	3	Benjamintaylormusic.com
Legos Emit Gnarly Overtones (4:00) – Flex Band	2020	Taylor, Benjamin Dean	2	Benjamintaylormusic.com

Player One Press Start (4:00)	2022	Taylor, Benjamin Dean	2.5	Benjamintaylormusic.com
Player Two Press Start (3:30)	2024	Taylor, Benjamin Dean	2	Benjamintaylormusic.com
Snitchin' in the Kitchen (4:30) – Flex Band	2020	Taylor, Benjamin Dean	3.5	Benjamintaylormusic.com
Sunset Highway (4:30) – Flex Band	2024	Taylor, Benjamin Dean	3	Benjamintaylormusic.com
Techno Blade (3:00) – also available for Flex Band	2018	Taylor, Benjamin Dean	2	Benjamintaylormusic.com
The Excitement of Fear (5:30)	2021	Taylor, Benjamin Dean	3.5	Benjamintaylormusic.com
HitchBOT (3:23) – Flex Band	2022	Tedrow, Alex Tucker,	2.5	Murphy Press TMW Press
Mission STS: Ecceda Terra	2012	Christopher Van Zandt Lane,	4	Murphy Press
Echo Chambers (10:00)	2019	Peter	N/A	
Déserts (25:35)	1949/ 1954	Varése, Edgard	N/A	Boosey & Hawkes (Rental)

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\*List is non-exhaustive.

Thank you [Jeff Girard](#), [Dr. Justin Hubbard](#) and [Prof. Theresa Hoover](#) for contributing to this list

## OVERVIEW OF TECHNOLOGY REQUIREMENTS (Perez, 2015, pp.10-15)

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Performing electro-acoustic music for wind band requires equipment ranging from a simple stereo speaker setup to large arrays involving computer audio software, digital audio interfaces, microphones, floor monitors, hot-spot speakers, and personal monitor systems for the conductor. Although composers strive to offer an accessible, non-threatening setup, having a comprehensive understanding of the equipment needed can help the conductor gain insight into funding requirements, rehearsal and performance practice, logistics, and how to train the musician coordinating the electronics. Additionally, the conductor will learn terminology necessary to better communicate with the audio engineer should there be one available to assist with the technology component. To ensure successful rehearsals and performances, it is highly recommended that the conductor/sound engineer purchase the appropriate equipment and have ample lead-time to test it with the electronic track. Otherwise, it is conceivable to waste an entire rehearsal trouble shooting the technology (Perez, 2015, p.17).

There are three general approaches to integrating a pre-recorded track or collection of electronic sounds:

The simplest level of integrating electronics with acoustic instruments corresponds with the first of three methods composer Alex Shapiro writes about in her article (Shapiro, 2014, p. 10). The electronic sounds are pre-recorded onto a single, long running track that is the same length as the entire piece. They are predetermined, designed, and recorded by the composer so that they playback exactly the same each time the piece is rehearsed and performed. This is the approach that most composers are gravitating towards as it makes their work accessible to a wide variety of band programs with limited knowledge of electronics or availability of equipment (Perez, 2015, p.10).

Steven Bryant's piece, *The Machine Awakes*, is a perfect illustration of the most basic setup: two powered speakers, a small mixing console and a playback device. The audio signal path would start with the playback device sending the signal to a mixer with two speakers connected to it that are placed on stage either in front or behind the ensemble (Perez, 2015, p.10).

The next level of complexity introduces a click-track (i.e. a metronome for the conductor) as in Alex Shapiro's *Paper Cut* and Steven Bryant's *Coil (Track version)*. This method is becoming more common as more composers are choosing to use this method. It involves playback of two tracks simultaneously. One track has both the click and the electronic track for the conductor and the other consists of the electronic track alone, which is routed to the audience and the ensemble. This necessitates a computer and a digital audio interface capable of sending out two stereo signals (four output jacks) that can be routed to two different locations (conductor headphones and stage speakers). Most playback devices, including computers, have only a single stereo output jack and are not capable of sending out two different stereo signals. The digital audio interface makes it possible for the click track to be sent to the conductor's headphones independent from the electronic track being sent to the ensemble and the audience. Usually, the main electronic track is in stereo and the click track may be mono or stereo. Therefore, the digital interface needs to be capable of sending out four output signals (Perez, 2015, p.12).

The digital audio software installed on the computer must also be capable of playing multi-channel audio through a digital interface. Digital recording applications such as *Cubase*, *Logic*, *Pro Tools*, etc. have this capability and can be configured to use most digital audio interfaces on the market. Once the audio software is chosen, both the track with click and the track without the click are imported into the program and aligned so that they are synchronized during playback (Perez, 2015, p.13).

Composers Steven Bryant and Thomas Rex Beverly use computer programs such as *Ableton Live* or *MaxMSP* to program their sounds and do not give the conductor a choice of which software program to use. These two programs make use of the multi-channel output capabilities and also incorporate a click track (Perez, 2015). This third approach to integrating electronic sounds with acoustic instruments is the most sophisticated from a programming standpoint, it offers the most flexibility and fluidity with regards to time and integration. For his piece, *Coil*, composer Steven Bryant has programmed all of his sounds into MaxMSP and has made the file available to download from his website. First, an 88-key MIDI keyboard is connected to the computer running the sound patch file for *Coil*. Bryant has written out the keyboard part in standard notation and has assigned certain notes/pitches trigger sound patch changes within the software. No extra effort needed aside from the initial setup. Since this set up does not require a click track it offers the most flexibility tempo-wise. The only hardware needed is a computer, 88-key MIDI controller, a DI (Direct input box) and a pair of powered speakers.



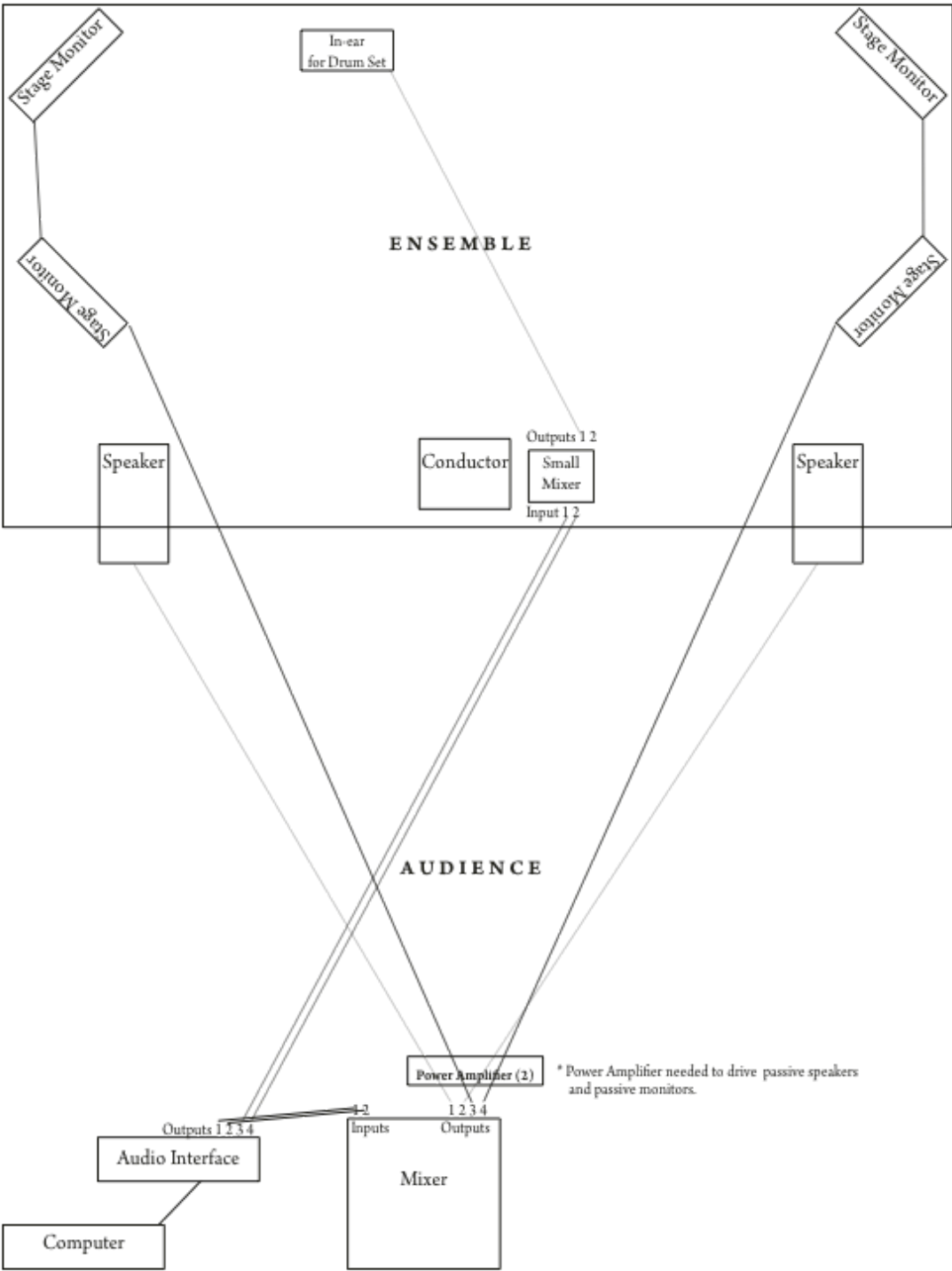
## RECOMMENDED EQUIPMENT (Perez, 2015, pp.37-38)

\* Please note that you do not need to all of these. What you purchase will depend on what you need for each piece.

 <p><a href="https://www.sweetwater.com/store/detail/AudioExpress">https://www.sweetwater.com/store/detail/AudioExpress</a></p>	<p><b>MOTU Audio Express USB/Firewire-Audio Interface</b>            *Used for <i>Paper Cut</i> &amp; <i>Coil</i> (click track version).            ** Any audio interface with 4 output jacks (1/4") will work with most electroacoustic repertoire.</p>
<p><a href="https://www.steinberg.net/cubase/">https://www.steinberg.net/cubase/</a></p>	<p><b>CUBASE Elements –Multi-channel Audio Software</b>            *Used for <i>Paper Cut</i>.</p>
 <p><a href="http://www.sweetwater.com/store/detail/MG06">http://www.sweetwater.com/store/detail/MG06</a></p>	<p><b>Yamaha MG06 – Six Channel Mixer</b>            *For the conductor to use beside the podium for volume adjustment of click track in headphones or hot spot monitor.</p>
 <p><a href="http://www.sweetwater.com/store/detail/PowerPlay1">http://www.sweetwater.com/store/detail/PowerPlay1</a></p>	<p><b>Behringer Power Play P1 In-ear Monitor Amplifier with Dual Inputs</b>            *For the drum set player to hear click-track. This makes a huge difference when working with a click track.</p>
 <p><a href="http://www.sweetwater.com/store/detail/CleanBoxPro">http://www.sweetwater.com/store/detail/CleanBoxPro</a></p>	<p><b>ART Clean Box Pro Direct Box</b>            *Used to convert (amplify) and route the sound from the computer to the mixer or directly to the powered speakers – Used to amplify the sound from the computer in <i>Coil</i>.</p>
<p><a href="http://www.sweetwater.com/store/detail/MDR7506/">http://www.sweetwater.com/store/detail/MDR7506/</a></p>	<p><b>Sony MDR-7506 – Closed Back Headphones</b>            *For the conductor listening to the click track.</p>
 <p><a href="http://www.sweetwater.com/store/detail/K12">http://www.sweetwater.com/store/detail/K12</a></p>	<p><b>QSC K12 Powered Speaker</b>            *Self-powered speakers can be used as both speakers and floor monitors.</p>
 <p><a href="http://www.sweetwater.com/store/detail/MG16">http://www.sweetwater.com/store/detail/MG16</a></p>	<p><b>Yamaha MG16–Sixteen Channel Mixer</b>            *Used to mix full band with the electronic track.</p>
 <p><a href="https://www.sweetwater.com/store/detail/NX46000--behringer-nx4-6000-power-amplifier">https://www.sweetwater.com/store/detail/NX46000--behringer-nx4-6000-power-amplifier</a></p>	<p><b>Behringer NX4-6000 6000W 4-channel Power Amplifier</b>            *Powers one stereo pair of passive speakers and one stereo pair of passive floor monitors. Use with mixer if you do not have powered speakers.</p>
 <p><a href="http://www.sweetwater.com/store/detail/B205D">http://www.sweetwater.com/store/detail/B205D</a></p>	<p><b>Behringer Eurolive B205D–Hot Spot Monitor</b>            *Hot Spot speaker for the conductor to monitor the electronic track.</p>
 <p><a href="https://www.sweetwater.com/store/detail/StreamMini--elgato-stream-deck-mini-customizable-desktop-interface">https://www.sweetwater.com/store/detail/StreamMini--elgato-stream-deck-mini-customizable-desktop-interface</a></p>	<p><b>Elgato Stream Deck Mini Customizable Desktop Interface</b>            Programmable buttons that link/map to any keyboard shortcut. I use the buttons to map to bookmarks on the digital audio file that correspond to rehearsal markings in the score. Also available for iOS/Android (6 Free Buttons!)</p>

Images used with permission from Sweetwater.com

# DIAGRAM OF RECOMMENDED SETUP (Perez, 2015, p.39)



# RESOURCES

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- Shapiro, A. (2015, April 13). Email Interview.
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## Additional Website Resources

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Dr. Frank Perez

<http://www.frankperezmusic.com/links.html>

The Society for Electro-Acoustic Music in the United States (SEAMUS) – Great database for electro-acoustic pieces for myriad ensembles.

<https://seamusonline.org>

MONUMENT III: CHARLESTON, SUMMER OF 2015

<https://seamusonline.org/work/monument-iii-charleston-summer-of-2015/>