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Integrating Electronics into Your Marching Band Show - Perspectives of the C.T. Johnson H.S. Band Staff

CLINICIANS:
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TBA Convention Clinic 7/28/18 – 11:30 AM

Introduction and Overview

Alan Sharps, Associate Director – Sound Designer/Electronics Coordinator/Woodwinds

Why we're here:

I was originally asked to present a clinic on the use of electronics in marching band. I felt that including the entire team would be the most valuable format for the clinic. All of us in this field have a healthy sense of cautiousness and some of us sarcastic wit when it comes buying into newer philosophies. I can't decide whether it's due to us relying on teenagers for our professional well-being or having our school districts roll out the latest program every two years that will solve all of the ills of education. I can tell you from reading the Yellowboard that the use of electronics seems to be only a little less divisive than political discussions. Having said that, let us begin with the apologies and our warning labels.

- This is not a clinic to tell you what your band should be doing.
- This is an opportunity to describe what we do for those that may be interested
- We don't claim to be state of the art. We may occasionally be in some facets
- We try to always learn, experiment and evolve. This is a current snapshot.
- Always borrow from the best. We do. We thank those that have shared info with us.
- We understand how blessed we are to be able to have the administration, parents, students and staff to make the following possible. I taught by myself for sixteen years in Florida and Virginia before coming to Churchill H.S. in 1997. I taught bands as small as 27 members during that time. I wrote the wind and percussion books myself. I know teaching situations that don't have the resources of some of our 6A bands well. I'm very aware that much of this information would have to be scaled back in increments for most programs. I encourage everyone to see the possibilities and not focus on the hurdles.

Why these things work at CTJ:

- We are blessed to have a great staff of like-minded individuals concerning electronics.
- We have overlapping skills among the staff members (writing/design/troubleshooting)
- The students are excited to be a part of the shows and put forth extra effort
- All the directors are sensitive to the electronics and offer constructive feedback. All of the staff takes ownership and operates as a team.
- The electronics are an integral part of the show design from the initial planning

Our sound system setup:

- We use two independent sound systems for the band. One is on the field and one in the front ensemble. Both are currently run through Yamaha O1v version 2 mixers. The front has 40+ channels and the on field box has up to 16 but we only use about 6. The front adds extra channels with a 16 channel ADAT card and 24 channels of Digimax D8 preamps. We use ALL of the inputs and are always trying to squeeze out a few more.
- We have three Whirlwind Medusa snakes with 8 to 16 inputs in the front.
- Our front input setup is:
    - 4 shotgun mics
    - 4 small ensemble/soloist mics
    - 4-5 marimbas with two mics on each
    - 4-5 vibraphones with one mic on each
    - A drum kit with 5 mics sub-mixed down to a stereo pair using XLRs to snake
    - 2-3 synths in stereo. Balanced ¼" outputs to a direct box using XLRs to snake
    - 1 Keyboard triggering Gig Performer on a MacBook Pro. Focusrite pre to snake
    - 1 Roland SP404SX or SP404A RCA outs to direct box using XLRs to snake
    - 1 Yamaha DTX drum pad trigger
- We use four shotgun mics on tall stands. They are initially set low volume and brought up for WW moments and section features rather than just creating more volume.
- All soloists are using wired mics whenever possible to eliminate wireless issues.
- The Gig Performer/MacBook involves a lot of programming of instrument layers. It gives us the opportunity to use any software plugins we want and have control of layers, balance pan, etc.. We create the interface to change any parameter with a knob or slider.
- The Yamaha mixers and the Gig Performer need constant saves after every change.

Our Philosophy:

- We believe that the electronics have the potential to be integrated well with the band.
- We believe that music ensembles naturally experiment and evolve over time. There was a time where using an electric bass, guitar or piano in a jazz ensemble was a bad thing.
- We believe that marching bands need to be entertaining for their community to remain popular in the long term. We get a huge level of support from our non-band parent audience. Some of them have very little exposure to acoustic music in their daily routine.
- We don't do electronics instead of teaching our students to play. We try to achieve the highest level of performance and musicianship and use electronics to enhance them.
- We believe that woodwind players that have worked so hard during the season deserve a chance to be heard with their natural instrument tone quality and not be told just to play as loud as possible. Transitions to concert ensembles are so much easier for everyone.

Equipment and Sound Design

Alan Sharps, Associate Director – Sound Designer/Electronics Coordinator/Woodwinds

Sample Creation:

- Many of our samples take a great deal of time to put together just like drill and the book.
- Samples can be many layers just like the sound played with a single key on a synth
- We do a huge amount of post-production to our sounds. They are dynamic and active.
- Samples are designed in Logic to a Finale audio file of the wind/perc book.
- Each layer is on a separate track so the timing, balance and EFX can be altered.
- Types of Electronic Samples that we employ
    - Atmospheres
        - Should often be "felt" more than they are heard, careful balancing is the key
    - Risers
        - Effect can be added to crescendo moments with various electronic riser sounds
    - Hits/Impacts
        - Cinematic style effects
        - Moving air with the subwoofers (supplementing concert bass drums)
    - Voice drops (pre-recorded narration)
        - Used in BOA only, not legal in UIL competition

Design suggestions:

- Go through all of your synth patches and samples to find favorites that you think might be useful in a combination wind/perc/electronics setting. Make a favorites bank or folder.
- Listen through your sound system if possible while creating samples. It will save lots of revisions due to sounds not transferring well from the writing environment.
- I have many thousands of dollars worth of recording/editing software and thirty years experience as a recording engineer. If you want really high quality custom sounds it's usually more time and cost effective to purchase them. This is especially true if you only want a few samples. Think of all of the people that own Pyware and can't write drill. Owning the software is just a small part of the investment in learning to use it well.
- Having said that, beware of writers that charge lots of money for a single note played by a synth with no post-production or layering. If you just want a note or a simple sound there are free audio editing programs to do those in-house.
- Always balance your electronics in a stadium if possible
- In the same way that constant feedback is needed to refine tone quality or performance skills; constant critique and refinement is an absolute necessity. The final mix will only

be as good as the staff's ability to hear areas of concern and then describe them lucidly and calmly to those that can fix them.

- The sound system must be able to handle the volume/tone intended for your samples. It's easy to imagine an effect that is simply not possible on a particular system.

Microphones:

- Condenser Mics for front ensemble/wind ensembles/soloists – Audio Technica 2035
- Shock Mounts for 2035 mics are 8458 and Wind Screens are 8137 (All Audio Technica)
- Shotgun Mics – Rode/Sennheiser - Wide frequency range is good but picks up drums.

Additional equipment we use:

- Pagentry Innovations Triple Mixer Cart
- Boom mic stands – K&M 21090B
- Manfrotto tall light stands – Avenger Baby Stand 45 (15'), 40 (12'), 35 (10'), 25 (8')
- McSpud 10881 Light Stand to 5/8" mic adaptor or Manfrotto 014-38 3/8" mic adaptor
- Clip on horn mics – Shure Beta 98H/C
- Inexpensive stereo direct boxes – Behringer DI120 (We use phantom power not batteries)
- Cables – ProCo Excellines or Planet Waves. Don't waste your money on cheap cables.

Program Design Considerations

Jarrett Lipman, CTJ Band Director – Program Designer

Using electronics to enhance the show

- Should work in harmony with woodwinds and brass
- Not a replacement for quality of wind teaching
- How much is too much?

Designing with electronics as a part of the show vs. an afterthought

- Develop shows with electronics integrated
- How can shows gain from electronic support

Electronics cannot distract from the Woodwind and Brass Colors

- Ensure WW and Brass Sonorities have the "right of way"
- Feedback problems – who is monitoring
- The dreaded sub

If you don't know …get help!

- If you don't have a background, ask someone who does
- Electronics can make or break a show
- Hire only the best help. Your kids work hard, they deserve the best.

Creation of the Front Ensemble Book

Jordan Stern, Lecturer at Texas State University – Percussion Composer/Arranger

Jordan is also a former CTJ Assistant Director

Show Design – Cut Tapes

- Program Coordinator Jarrett Lipman and I work together splice together cut tapes to help guide our wind arranger, Carol Chambers, with the arrangements
  - We use the program Logic (Available for Mac only) to splice together different source material
    - PC Alternatives: Pro-Tools, Ableton, Audacity
  - We can use Logic to change the key or tempo of a source recording
- We will sometimes start designing or at least planning out different soundscapes as we create the cut-tapes

Creating the book

- The first order of business is usually designing the preshow, which should set the mood/feel of the show while creating certain expectations in the listener
  - The electronic palette presented in the pre-show can help create a common thread throughout the show
    - Example – CTJ 2014: Chameleon
- As I write the pit book, I will design some of the sound effects as I go. There are some moments which I know are more suited to Alan's skill set, so I will insert a "placeholder" sample there, which Alan will replace with a more complex sample
- Writing for Synths
  - We utilize 3 synth players
    - Lead synth
      - Typically plays melodic parts
    - Pad Synth

- Typically plays chordal parts, rhythmic "strumming" patterns, inner voice lines
  - Bass Synth
    - The bass synth can be the most helpful or harmful to your band depending on how you balance it and which patch you choose. On Yamaha synths, we like the "Lo boy" patch, it tends to blend well.

Sound System Implementation

A1C Daniel Dowling, USAF - Sound Mixer Setup/Signal Flow/Troubleshooting

Wiring the system

LAYER	Inst	Snake Assign	Pre Amp	Board CH	Snake Coding	Pre Amp Coding	ADAT Assign
1-16	SGN1	S1-1	Y1	1			
	SGN2	S1-2	Y2	2	side one is RED	Y- Yamaha	P1 - SLOT 1-8
	SGN3	S2-1	Y3	3	side two is BLUE	P - Presonus	P2 - SLOT 9-16
	SGN4	S2-2	Y4	4	center is PURPLE		P3 - ADAT 1-8
	W1	S2-3	Y5	5			
	W2	S2-4	Y6	6			
	W3	S2-5	Y7	7			
	W4	S2-6	Y8	8			
	DTX L	S1-11	Y9	9			
	DTX R	S1-12	Y10	10			
	SPD L	C-9	Y11	11			
	SPD R	C-10	Y12	12			
	DRM L	C-B	Y13	13			
	DRM R	C-C	Y14	14			
	FX 1-1	---	---	15			
	FX 1-2	---	---	16			
17-32	V1	S1-3	P1-1	17			
	V2	S1-4	P1-2	18			
	M1H	S1-5	P1-3	19			
	M1L	S1-6	P1-4	20			
	M2H	S1-7	P1-5	21			
	M2L	S1-8	P1-6	22			
	M3H	S1-9	P1-7	23			
	M3L	S1-10	P1-8	24			
	M4H	S2-7	P2-1	25			
	M4L	S2-8	P2-2	26			
	M5H	S2-9	P2-3	27			
	M5L	S2-10	P2-4	28			
	V3	S2-11	P2-5	29			
	V4	S2-12	P2-6	30			
	FX 2-1	---	---	31			
	FX 2-2	---	---	32			
33-40	S1L	C-1	P3-1	33			
	S1R	C-2	P3-2	34			
	S2L	C-3	P3-3	35			
	S2R	C-4	P3-4	36			
	S3L	C-5	P3-5	37			
	S3R	C-6	P3-6	38			
	404L	C-7	P3-7	39			
	404R	C-8	P3-8	40			

Mixer Scenes

- Setting fade times

Scene	Inst	Dynamic	Action	Fade Time	Tempo	Beat Divisor	Time Sig	
PART ONE	S1	ff	intitial		144	2.4	4/4	
	S2	mp	intitial					
	S3	mp	intitial					
	S4							
m. 14	S2	mp < ff	cres. 12	5				
	S3	mp < ff	cres. 12	5				
m. 18 ltr B	S1	ff						
	S2	fff						
	S3	fff						
m. 29	S1	ff < fff	cres. 8	3.33				part 2 156 - 164
	S3	fff < ffff	cres. 8	3.33				

Troubleshooting

- Understanding signal flow

Front Ensemble Day to Day Operations

Robert Lozano, Assistant Band Director – Percussion Director/Front Ensemble

Equipment Concerns

Maintaining the sound system

Daily adjustments

Lessons Learned

What a "sound board kid" needs to know

Managing student stewardship of sound equipment

Questions for the panel

Contact Information

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Dan Dowling – (281) 253-7355 dwdowling@sbcglobal.net

Thanks also to our Drumline/Battery Director, Kris Hartman

This Excel File is used by the sample player and Mr. Sharps

to keep track of the current status of each sample.

CTJ Band 404SX Samples 7/3/18

Johnson Band SP-404SX Samples 2017

Bnk	Pad	Vol	Name	Description	Comments
A	1	127	OPENING W/O MET	PRESHOW	x
A	2	127	PART ONE TEXTURE	x	PART ONE - BAR ONE
A	3	100	PART ONE RISER 2 HIT	2 SLOW 4/4 BARS	PART ONE - 2 BEFORE C
A	4	127	PART TWO OPENING	x	PART TWO - BAR ONE
A	5	80	PART SAMBA BIRDS	During 3/4 GROOVE	AFTER GUITAR COUNT 1
A	6	100	PART 2 WHOOSH	RELEASE OF MVT 2	RELEASE OF MVT 2
A	7	100	PART 3 CHANT	END OF TRANSITION	x
A	8	100	TRANSITION BIRDS	ON HORN RELEASE	BAR 9
A	9	100	PART 3 THUNDER	AT END OF CHANT	BAR 13
A	10	127	HAZY	x	LETTER E BAR 06
A	11	127	ORCHESTRA	x	TWO BARS LETTER F
A	12	127	THUNDER	x	x
					x
Bnk	Pad	Vol	Name	Description	Comments
B	1	115	METAL RISER BAR A	x	MVT 4 - 2 BARS BEFORE 1
B	2	115	LEAVING RUST ISLAND	x	BAR 01 DUAL TRIGGER
B	3	115	PART 4 OPENING	REV - 2 Sept 19	BAR 01 DUAL TRIGGER
B	4	127	PURE BREATH	x	BAR 03
B	5	115	ANGRY BIRD FLAPING	Screech and Wings	BAR 04 DUAL TRIGGER
B	6	100	BIRD CALL LOOP	x	BAR 04 DUAL TRIGGER
B	7	100	KALIMBA SHAKERS	x	BAR 11
B	8	100	x	x	x
B	9	100	MEDEA HIT RISER	x	2 BARS B4 LETTER C
B	10	105	EVIL SCREAM	x	AT LETTER E
B	11	100	x	x	x
B	12	100	x	x	x
Bnk	Pad	Vol	Name	Description	Comments
C	1	100	HALLELUJAH 1+2	PART 4 INSERT 1	LETTER L
C	2	100	HALLELUJAH 3+4	PART 4 INSERT 2	LETTER L BAR
C	3	100	HALLELUJAH 5+6	PART 4 INSERT 3	LETTER L BAR
C	4	100	HALLELUJAH 7	PART 4 INSERT 4	LETTER L BAR
C	5	100	x	x	x
C	6	100	x	x	x
C	7	100	x	x	x
C	8	100	x	x	x
C	9	100	x	x	x
C	10	100	x	x	x