

The Problems with Sound Delay on a Football Field

John Wooten

THE BIGGEST PROBLEM WITH TRYING TO put together an ensemble on a football field would have to be sound delay. Sound travels approximately 1,100 feet per second at sea level and it is 105 feet from the back hash to the front side line. Therefore if you were to put a snare drummer on the back hash and a bass drummer on the front side line and have them play quarter notes at 160 at exactly the same time, it would sound as though they are 1/5 of a beat apart from the front or the back of the field. The only place they would sound together is in the end zones or half way between the two players.

Sound should start from the back of the field and go forward in order for it to be together in the stands. Here are some simple rules to correct the sound delay problem although it is easier said than done.

Rule #1: Whomever is furthest back field should cue off of the drum major and ignore the sound coming from the musicians in front of them.

Rule #2: The players in the front of the field should not watch the drum major but should cue off of the players behind them as long as there is something to cue off of.

From the back of the field a corps or marching band should not sound together. Here is one of my favorite quotes, "Man, I was standing back field and those guys were having all kind of phasing problems." Well, back field is the worst place to judge because if it is together up front then chances are it will sound bad back field.

This past summer, with the Phantom Regiment Drum and Bugle Corps, I had the pit actually cue off of the



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drum major at only three spots in the show. Each was because no one else on the field was playing so they had nothing to listen to. At all other times they played by ear. Even though it appeared they were looking at the drum major they were looking through him just because it looks professional and the judges like that.

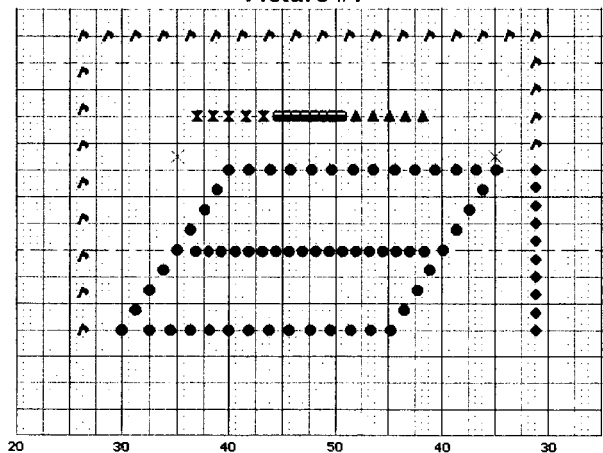
Only twice in the show did the horns or battery percussion cue off

of the pit and that was because they were within eight steps of the pit.

The following pictures are from the visual book of the 1989 Phantom Regiment "New World Symphony" show by John Brazale.

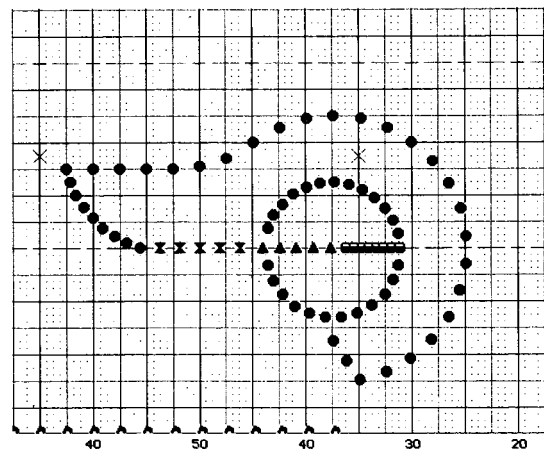
It is always easiest to keep the corps together when the drum line is behind the horns. In this first picture they are just that. The drum line was furthest back field so we had them watch the drum major and the horns cue off the drums.

Picture #1



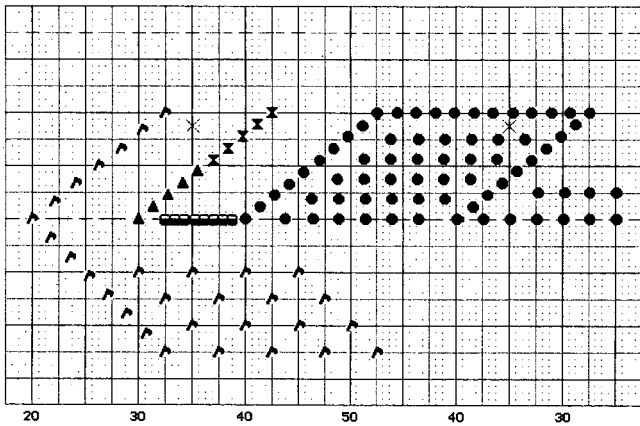
In this next picture most of the horn line is behind the drum line but several horn players are still in front. Right here we had the baritones behind the drum line cue off of the drum major and the drum line went with the baritones. The horns in the front and pit cued off of the drum line just because they are easier to hear.

Picture #2



As the drill progressed the drum line split with the horn line. We had drums on one side of the field and horns on the other.

Picture #3

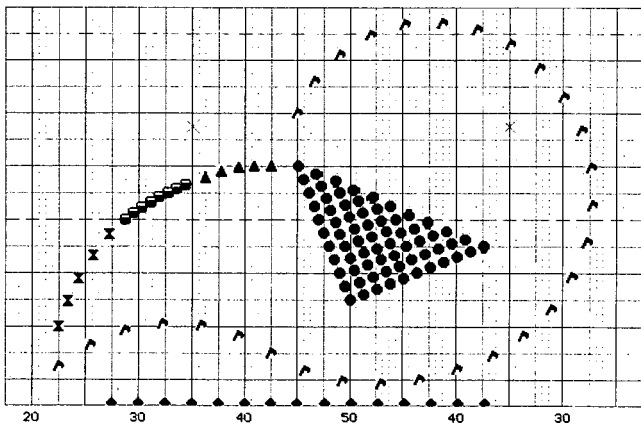


When this occurs one of two things can be done: 1) Have the drum line control the tempo and tell the drum major to keep the horns with the drum line by watching the drummers' feet while conducting the horns. 2) have everyone cue off of the drum major as long as there is limited spread east and west.

The first suggestion seems to work best just because the drummers tend to be a little more consistent with tempos than the drum major.

The picture below creates the same problem with separation. This would be easy to pull off if your audience were in the end zone, but they aren't.

Picture #4



I do have one more suggestion on how to fix this problem and that is to avoid writing drill where horns and drums separate north and south unless you have very mature musicians; or, the horns or drums have tacet time, then it doesn't matter how far you separate them.

When working on tempos we used a Dr. Beat hooked up to a Long Ranger speaker, set it on the podium back field, and then turned it on so the chirp was on every down beat and the volume was all the way up.

Always have the source of the sound, whether it be Dr. Beat, a bass drum, a cowbell, etc., as far back field as possible. Putting the source at the front will be disastrous because you are now multiplying the sound delay times two. Putting the source in the middle of the field is what some people might find logical but that creates

two problems. 1) It gets in the way with drill. 2) Even though it is minimal there is still a sound delay for those people behind the source.

Every drill picture creates different problems. I always thought it was fun trying to figure out who was to listen and who was to watch. Hopefully my suggestions will help you out. Just remember to be consistent with the marching members on whether to listen or watch and you shouldn't have too many problems. ■

John Wooten is currently Percussion Coordinator for The University of Iowa Bands. In addition to teaching and writing for the Hawkeye Drumline, John also directs the Iowa Pep Band during the basketball season. A native of Lafayette, Louisiana, John received the Bachelor of Music degree from the University of Southwestern Louisiana and the Master of Music degree from North Texas State University. As an instructor and/or performer, John has been associated with five PASIC Marching Percussion Forum champions. For the last three years, Mr. Wooten has served as the Percussion Captain Head for the Phantom Regiment Drum and Bugle Corps from Rockford, Illinois.

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