Recording Your Examination Tape

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Congratulations on the preparation of your performance! In order to give the judges the most accurate tape, you need to follow a few sound principles. Remember, it is not the "beauty of sound" that makes for a successful examination tape, it is accuracy of presentation. In other words, the judges must hear all the nuance of your performances easily and clearly.

First, get someone to help you. Unless your carillon has a permanently installed recording system, it isn't possible for you to play and record all by yourself. Your assistant should be familiar with the equipment, if only to set your mind at rest so you can concentrate on the performances.

Do not rush your tape process. Now is the time to begin recording. Don't wait until the last minute! You will have probably already prepared the non-required compositions prior to receiving the required ones, and this is a good time to begin recording works with which you are already familiar. You will want to make many tapes over as long a period of time as possible. This will not only give you the greatest number of performances from which to choose, but it will actively engage you in critical listening. Since you can never hear your own live performance, a tape is the next best thing, and can help you improve as a carillonneur. Also, since you will be dubbing (copying) from this master tape to make your submission tape, you will have a chance to increase the quality of recording over time, rather than being stuck with whatever you get from only one or two sessions.

Judges want to be able to listen easily and accurately to the submitted tape. There should be a minimum of noise (this includes the playing mechanism of the carillon), the tape levels should be strong without distortion, and the tape must show dynamic nuance.

The Equipment

Always use the best equipment you possibly can. A recording is only as good as the weakest piece of equipment.

Tape Recorder

There are three types of stereo recorders available: reel-to-reel, cassette, and digital. Reel-to-reel is preferable to cassette, but properly operated, digital recording will be the best (however, you still have to submit a cassette tape to the exam committee chair). Use noise reduction (Dolby) as this will reduce noise. Set it to "Dolby B." This will allow the greatest possible number of tape recorders to take advantage of the noise reduction. Do not use other noise reduction settings. They will cause distortion on recorders not equipped to playback at those settings. Make sure to indicate if you have used noise reduction when you submit your cassette tape.

Never use automatic level control. TURN IT OFF! Nothing will ruin your performance as effectively as this device. It will automatically move all dynamics to forte and leave them there. If you find that your performance has no dynamic nuance, check the automatic level control.

Initially, set the control dials flat -- that is, in the center of the range. You may need to boost or lower the volume, or compensate for the treble and bass, but do it slowly. With the exception of the digital recorder, the volume indicator (the VU Meter) can go into "the red" periodically, but if it remains there, you are producing a distorted (and therefore unusable) recording.

If you are using a digital audio recorder, make sure your assistant is thoroughly familiar with it. You may not exceed the zero recording level when using this equipment.

Microphones

Always use the best microphone you can. There are two types of microphones generally used: dynamic and condenser. Condenser mics give the better musical sound, but are susceptible to wind noise. You can use a properly manufactured wind screen to cover the head of the microphone to reduce or eliminate wind noise.

Microphones can be directional or omnidirectional. A directional microphone (unidirectional or cardiod) helps to reduce noise by having a restricted pattern, while an omnidirectional mic will be less influenced by wind noise. Given a choice, choose two omnidirectional microphones with low impedance, balanced output. Under no circumstances use a microphone built into the recorder. You will make a fine recording of the recorder noise, but a bad one of the carillon. In fact, if your recorder has a built-in mic, you may not want to use it at all, as those machines are generally of inferior quality.

Tape
Use the highest quality metal oxide tape available. This is the best tape for recording musical sound. Use only a 90 minute tape, as per the exam guidelines. Record on one side only.

The Recording

Placing microphones to record the carillon is an art, not a science. You will want to experiment until you get a satisfactory recording. Place the microphones as close to the tower as possible in order to avoid external noise. If you are recording from the ground or nearby buildings, using directional microphones, aim them at an angle of 90^{o} to 100^{o} with the tower in the center. Make certain you are not recording echoes from surrounding buildings. (Your assistant should be wearing a headset and listening to the sound as it is coming from the record head).

It is also possible to get a fine recording by placing the microphones in the bell chamber, although your assistant will need to be removed from the area in order to hear what is going on the tape without the interference of the actual bells. Never record from inside the playing cabin. You will only record the noise of the mechanism. If your bell chamber is divided, then you must record from outside.

If wind or traffic is a problem, use a low-frequency filter. You can also, as mentioned above, use a wind screen on the mic. Use the largest one you can for the microphone. Although you can, in a pinch, use a sock as a windscreen, you cannot use regular form as it is not sound transparent.

If there is a possibility that pedestrians will be around, make large signs saying "recording in progress, silence please," and hope it won't encourage the opposite response.

The Final Tape

After deciding which of the recordings of each composition is the best, you will need to dub them to a final master tape. Never record with microphones placed in front of speakers. Make direct cable connections between recorders. Use a high quality duplicating machine. If you are using a high quality duplicating cassette deck, record at normal, not high speed. Check the levels carefully. A fine master tape may need to be dubbed at a slightly lower level than originally recorded.

Good luck with your tape!