BEST PRACTICES

Best Practices #051: Video Support for Woodturning Demonstrations

Heading: Demonstrations

The success of woodturning demonstrations is enhanced when everyone in the room can see clearly what is happening at the lathe. I often pity the poor guys stuck in the back of the room – unless they came in late! With the video technology available today, Presenters can guarantee that everyone in the audience can see each detail, and that is the reason for this presentation.

Today there are many levels of video technology available, but the quality and quantity of the desired equipment is usually determined by the depth of the pockets of club members who want to provide the best visual capabilities. A turning club has budget constraints for purchase of audio-visual equipment, and my goal is to provide some basic understanding of options available and the associated expenses.

As a "phrugal" professional photographer, now retired, I know the level of investment in equipment is not the determining factor in the quality of demonstrations. It is often the skill level of the camera operator, in concert with the demonstrator that determines viewing success. Nevertheless, good A/V tools, like good tools in a workshop, can certainly improve the odds of success.

Cost Estimates: The most basic setup is a single stand-mounted video camera that feeds an NTSC signal to a television monitor. A mini-camera/stand combo costs about $100 minimum, and the monitor can be a 27" CRT cheapie or a large, flat-screen plasma. The next upgrade in viewing options is a digital projector, used for either front or rear projection onto a screen or blank white wall visible to the entire audience. There are dozens of such projectors available for high-resolution of 1080 pixels. Front projection in a room with lights on requires higher light output than rear projection, with ANSI standard lumen output of at least 2500, and 3000 is better.

The differences between projector liquid crystal display (LCD) and digital light processing (DLP) technology are narrowing every day, and a major consideration for portable units is size. LCD units have somewhat higher lumen output but less contrast, while DLP has higher contrast and smaller size. Some money can be saved by purchasing units without an audio component, a seldom-used feature for large audiences. A portable computer can also upload to the projector for playback of DVD's or PowerPoint presentations. I hesitate to be too specific about projectors because they change models frequently, so the one you just bought is often obsolete by the time you open the box. The major brands are Dell, Epson, Hitachi, InFocus, NEC, Optoma, Sanyo, Sharp, and Sony. (*See sources for projectors below*).
Lighting: In all setups, a first consideration must be good lighting on the lathe work area around the tool rest. Without sufficient light, even the best camera is useless, and

unfortunately this is an area often overlooked as a benefit of the demonstrator as well. Harsh direct lighting should be avoided because it causes exposure washout for cameras, so task lighting fixtures with soft light output work well, but even fluorescent fixtures can offer sufficient illumination if they are positioned above and near the demonstrator. Lamps should be aimed at the mounted turning, and care taken to avoid shining into the camera or the eyes of the audience.

Three-Camera Setup: A video arrangement utilizing three cameras is the most versatile system for presenting live turning demos for any sizeable audience. See camera/lathe illustrations on page 63 of the Summer 2008 American Woodturner Journal. In most circumstances, a mini-camera mounted on a tall stand (camera 1 as shown in the illustration) should be positioned to focus over the lathe headstock/handwheel, and aimed toward the tool rest. Another stand-mounted mini-camera (camera 2) is placed in front of the lathe, aimed toward the tool rest and at about tool rest height. The third mini-camera is mounted on a boom and operated from the tailstock end, also aimed toward the tool rest area so that the best viewing angle can be selected.

Here a video camera with good zoom length and manual controls, especially manual focus to avoid auto ranging, can also be used when mounted on a sturdy tripod, with the operator zeroing in on the turning action without blocking audience view. A 3 channel camera switcher allows the camera operator to select which camera will provide the best detailed view of the process, and constant attention to the output image on screen is required. The viewing screen should be positioned in the right front of the room, angled toward the audience so all viewers, including the demonstrator and camera operator, can have an unobstructed field of view.

Camera operators should have turning experience in order to anticipate the next move of the demonstrator, and ideally the demonstrator and camera operator should coordinate their actions before and during the demo, so operating as a team they will provide the audience with a visually enhanced learning experience.

Some clubs may want the ability to record their demonstrations so that DVDs can be produced for subsequent use by members. Demonstrators should be asked for permission to understand that their demos will be taped or digitally captured for later viewing by club members, but not offered for sale.

Sources of Video Equipment:
Here are some online sources for equipment mentioned:
www.cctvcamerapros.com
Sony Ultra-mini camera, catalog #: 2445c (3 suggested)
www.bhphotovideo.com
Impact light stand #: LS-6B (2 suggested)
Sunpak tripod #SU 9002DX

Digital Projectors:
www.projectorcentral.com
www.focusedtechnology.com

Sound Equipment:
My club uses Radio Shack products because they are readily available and meet our immediate needs and price ranges. Examples:
Radio Shack 10" PA speaker #40-0210
Radio Shack 40-watt amplifier #32-2045
Radio Shack FM wireless microphone system #32-1257

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