

## **Complex Shutter Cuts, and More! :** **Custom, Quick, Detailed, In-House Gobos**

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The University of Wisconsin – Parkside Theatre Arts production of Brian Friel’s *Dancing at Lughnasa* featured a large tree structure made of a collage of giant picture frames with painted scrim panels. (figure 1) Student lighting designer Chris Payne lit a backdrop of clouds around and behind this structure when the scrim was to appear transparent, and front-lit the “tree” when it was to appear solid. To achieve this effect, eighteen ellipsoidals were used, individually shutter-cut to and around the shape of the tree.

We were fortunate to have our production chosen to perform at the Region III KCACTF Festival. Being selected to have your production “tour” is a good problem to have, but a challenge nonetheless. We desired the same lighting effect on the tree structure, but knew we wouldn’t have time to hang and focus the eighteen lights required for the tree. The solution was to create custom gobos of the positive and negative shapes of the tree, which would only require four lights to achieve the same effect.

### **Process:**

We isolated the front elevation of the tree in Vectorworks and drew four circles representing the beams of light from each instrument, which were calculated based on throw distance and desired field diameter. (figure 2) The circles were centered over the area they each had to cover – two for the tree, and two for the backdrop SR and SL of the tree.

From each circle, we created image files, then used Adobe Photoshop to fill with black the areas that were to be “shuttered off”. We also used Photoshop to resize the images to the required image diameter of 70 mm with a glass size of 79 mm for our glass holders. (figure 3)

We printed the image files onto cardstock and trimmed away the masked areas with an X-Acto knife. One quick, light coat of Super 77 Spray Adhesive was applied to the back of the cardstock pieces to hold them in place for the remaining steps and to prevent paint from getting beneath the cardstock and blurring the image.

These cardstock template pieces were applied to 3-1/8” x 3-1/8” x 1/8” Pyrex, purchased from a local glass supplier.

Four light coats, one from each direction, of Rust-Oleum Specialty High Temperature Grill Paint were applied, blacking out the area on the Pyrex where the light was to be masked. The cardstock template was peeled away and a four-hour total dry time was required before use. (figure 4)

The gobos were placed in ETC Iris Slot “BG” size glass gobo holders and used with 750W ETC Source 4 Zooms (25-50 deg.). We found it was important to orient the holder with the glass closer to the lens tube than the lamp, to allow for heat dissipation through the iris slot before reaching the Pyrex. The use of zoom instruments in this situation allowed us to perfectly size the image to the tree structure in an unfamiliar space.

Beyond this production we have since used the same technique in 750W fixed-focal-length instruments to make custom windows to match those on-set, and custom architectural breakups to coordinate with a scenic design elements. (figure 5) The Pyrex can be easily scraped off and repainted with a new image, and approximately 50 gobos can be made with one can of the high-heat spray paint.

#### **Equipment & Suppliers Used:**

| <b>Item:</b>                                       | <b>Approximate Cost:</b> | <b>Supplier:</b>     |
|----------------------------------------------------|--------------------------|----------------------|
| ETC Iris Slot Holder 15679                         | \$20 / ea                | Mainstage Theatrical |
| Rust-Oleum Specialty High Heat Spray Paint 7778830 | \$6 / 12 oz.             | Local hardware store |
| Pyrex – 1/8” x 3-1/8” x 3-1/8”                     | \$4.50 / pc              | Local glass shop     |