



Patrick Cudzilo
RM 33893

How to Build an O Gauge Drive-In Movie Theater

Hello again, LCCA! During the Reno convention last summer, I showed many members a cool feature on my layout that I had built from scratch – a working drive-in with a working screen with sound. Everyone was interested in how could they build one so I'm sharing the process here.

I came up with this idea about 10 years ago. The biggest challenge was getting a flat screen that is the right size and shape. At the time, the only option available was a small television with that big box in the back of yesteryear. It didn't look realistic and the only way you could install it was to build it into a mountain on the layout. I wanted the screen to have back supports and look as real as possible. I live in Northwest Indiana (near Chicago) and there really aren't any drive-ins around here that are built into mountains! So I waited. Ten years and a second train layout later, I had the space and the technology had caught up with what I wanted.

The Hardware

I searched Amazon and eBay for small LCD screens and backup camera screens and found some small 3.5 to 5-inch screens with the video RCA jacks on the back. They run between \$20-\$100. **(Photo 1)** The price depends on how big or small you want it. For realism you need a square shaped screen, and you only need a video input. The one in the **Photo 1** has all three inputs – you can cut them off or just leave them on.

The next step is the DVD player. You can use any DVD player that has a video and audio output on it. I used what I had, which was portable DVD player which has a video output and a headphone output jack. I bought basic computer speakers and some male-to-female headphone extension cords





Photo 3

and installed the speakers into the rafters right over where you would stand so you can hear the movie that was playing. Once I tested it and changed the settings on the DVD player to work with an external LCD screen, it was time to actually make it look like a drive-in.

Construction

I cut 4x4 inch pieces of basswood and glued two “stilts” to the bottom of the screen. **(Photo 8)** This was to make it taller like a real screen. Next, I cut some 1/8 inch hobby plywood into three or four sections. I glued those sections to the screen itself to make a box around the sides. **(Photo 2)** You will have to measure your LCD screen to determine the size of these sections since every screen type will be a different size.

I wanted to cover the plastic parts and make it look as flat as possible. As I was putting the sides together, I realized the plug for my screen was on the side of the screen, though fortunately it was angled down at 90 degrees. If I left it uncovered it would not look realistic. I also needed to construct it so I could easily unplug the screen in case I needed to service it, or landscape near it. To resolve this issue, I made a removable panel that slides in and out. I first tried small hinges, but it looked terrible and did not work well. Then I made it simple. I super-glued a small square of basswood to the top of the panel. Then on top of the wood frame in the corners, I filled both left and right top corners with hot glue. While the glue was still hot, I pushed the panel in and pulled it out right away. By doing this, it made “a dry hot glue channel” strong enough to hold the panel in place and close enough to the rest of the wood to make it blend right in.

(Photos 6 and 12)

I then built the classic back drive-in structure out of basswood and super glue. The frame part you can build any way you want, and what works for your layout. For the one I made, I found a structure online that seemed simple and would work for me. I painted it in a classic 1950s green. **(Photo 6)** My screen had a



Photo 5

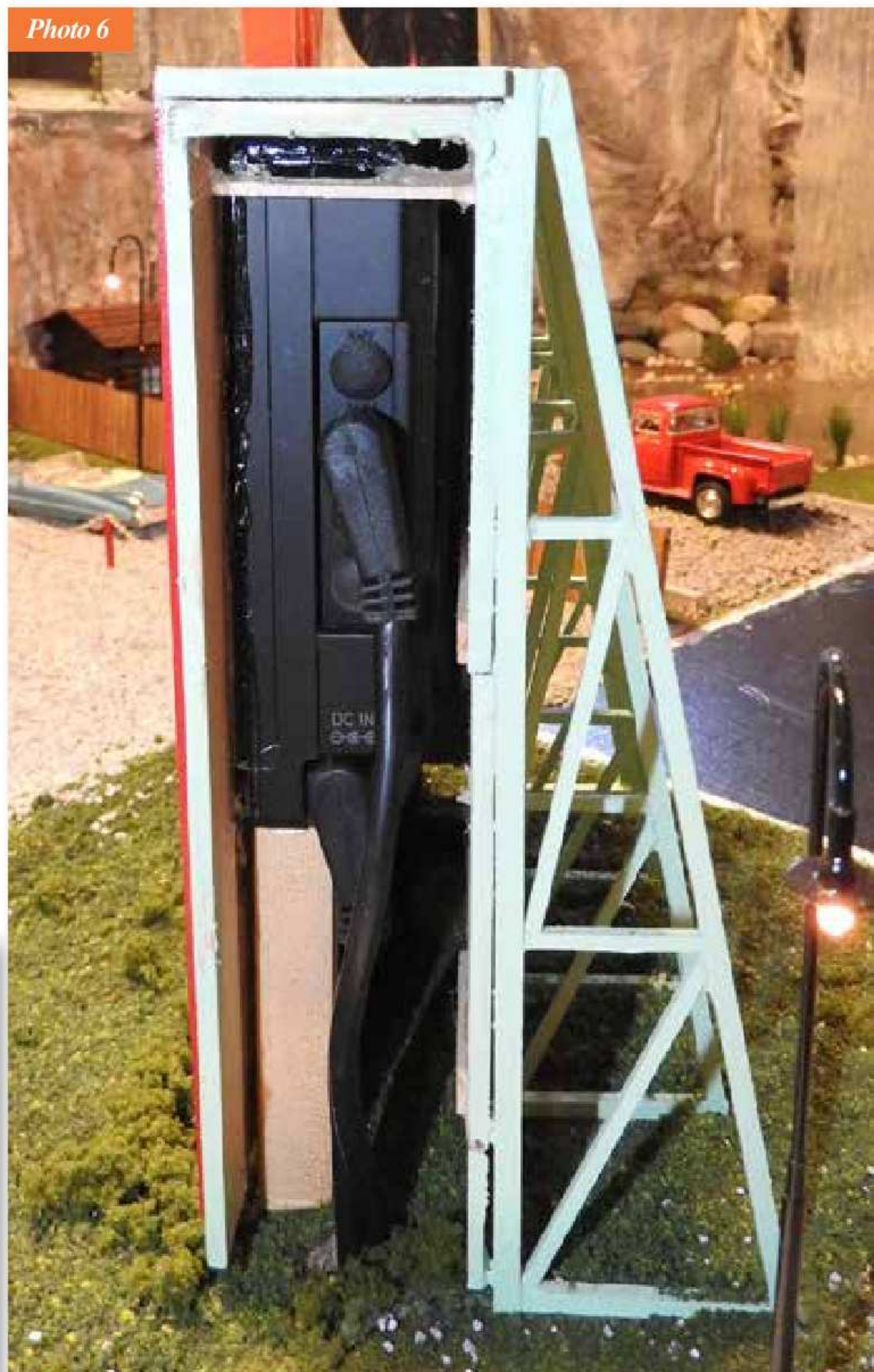


Photo 6



Photo 4



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12

black frame around it where the picture doesn't show. To keep with the drive-in screen look, I painted that part white, because what drive-in screen was black? They were always white. (At least the ones in Indiana were.)

After I built the screen, the next part was building the bumps, snack bar, playground, and lighting. I scratch built the snack bar and the ticket building based on the space I had. You can do whatever works best for you on this part. I also painted them to match the screen and each other. For the classic lift bumps for the cars, I rolled up four, six-inch-wide pieces of plaster cloth and glued it to the spots I wanted. Then, once they dried, I mixed plaster and smoothed it over the rolls to make a smooth bump. After that, I glued down (using school glue) the bump and put some green grass flock on and around the bumps. You could put rocks down also or mix the grass and rocks together since it will match the parking lot. You could also make the front row taller and the back rows shorter. **(Photo 5)**

I also wanted to add a playground. Usually, a drive-in's playground was under the front of the screen. Unfortunately, a space issue prevented that on my layout. I bought the Lionel Playtime Playground (#6-24138) and put it in the back of the drive-in. **(Photo 7)** For realism, I cut a hole in the layout table and made the Playground level with the tabletop. My table is $\frac{3}{4}$ inches thick and the playground base is also $\frac{3}{4}$ inches thick. For drive-in speaker stands, I built a "T" out of round basswood as a stand and used small rectangle pieces glued at an inward angle to look like a hanging speaker. **(Photo 11)**

The last addition was adding light and signs. I bought the Drive-in **(Photo 3)** Movie sign from Miller Engineering (#1381) and put that in the front of the screen. **(Photo 10)** I bought some low-cost light poles from China I found on eBay. They are black and skinny with grain-of-wheat bulbs and suited my needs since I didn't want a lot of light or a lot of attention to the light poles. It's a drive-in so it needed to be dim with just enough light to light up the road in and out of the drive-in. I have a 3D printer, so I added 3D printed letters that say "SNACK BAR" and "Y&W" **(Photo 10)** that I glued on top of the screen. I also 3D printed a small ice cream cone and put a grain-of-wheat bulb in the ice cream part to light it and a 3D printed popcorn bag at the top of the snack bar. **(Photo 9)** I named the drive-in the Y&W after a huge three-screen drive-in that used to be in Merrillville, Indiana. It closed long before I came around, but I remember seeing them tear it down and redevelop the land over the years. It was the largest and somewhat legendary drive-in in Lake County, Indiana. I hope this article will be both informative and helpful for you. I have talked to a lot of people that have O gauge layouts and few people have working drive-ins. Now that LCD technology is available, I recommend if you have a spot on your layout, consider building a drive-in. Kids love it and it's an unusual layout accessory. If you have questions or would like to share pictures of your drive-in, please email me at patrickcudzilo@gmail.com. Please make sure in the subject line to put LCCA Drive-In. See you at the next convention! 🚗

Photographs by Patrick Cudzilo