

Have a go at lighting & bring your house to life

Carl completes his series on lighting your doll's house with a detailed look at how he has wired several large projects in the past

BY CARL R SAHLBERG

In past issues, I've showed you how to electrify displays in different sizes. I started with 1/44th scale and projects like adding lights to a dresser or inside kitchen cabinets of one's doll's house. In last issue, I wired a 1/24th scale Victorian doll's house. In this issue, we'll conclude our discussion on "How Do I Get Started" by running through a series of displays I have wired in the past and describe how I went about running and concealing all the wires.

I have already stated that there is no one way to wire a doll's house. Each one presents its own issues due to its construction, as we discovered with the 1/24th scale house. There are also the personal considerations like, what time period is the structure? If it was prior to electricity we may want to add flickering LEDs for candle lights, oil lamps or gas lights. For most displays and doll's houses, I recommend adding the indirect 1/8" LED ribbons to illuminate the interior for viewing purposes. That's why I add an on/off switch so one can change to period correct lighting. For this issue we will discuss the running of wires and how best to conceal them. Following is a list of how I go about completing a wiring job:

Step 1. Select and mount a power connector. If you're not sure, go with 701-1 for all doll's houses and 701-0 for room



boxes and small displays. That works for most projects. You can choose a power supply later.

Step 2. Run either flat tape-wire, which I prefer, or round wire across each floor and vertically on the left and the right side of your project. If you have a foundation, run flat tape-wire completely around the interior of the foundation walls. That makes an easy access for connecting all of your wall outlets on the first floor straight down to the foundation tape run for power.

Step 3. Determine where the ceiling lights will be mounted and drill a hole in the ceiling to the floor above for each. Give some thought for wall sconces too and other features such as fireplace logs. Lay out a plan as to where your wires will run for the closest access to power.

Step 4. Run short tape runs from your main power runs on each floor to the holes in the floor you drilled for all the lights needed in the rooms below.

Step 5. Solder or use large grommets at each junction of tape-wire or round wire joints. Then TEST every junction and tape run to make sure you have 120 volts present.

Step 6. Once you have all of your elec-



trical runs down and TESTED, you can begin installing your lights and different features.

Step 7. TEST each feature before installing. Make sure all of the light bulbs work and if you have LEDs, make sure you mark which wire coming from the fixture is positive and which is negative. Use a black or red magic marker to colour code all your wires.

I have worked on some rather large displays, but they are no different from a small room box. They just take more planning, more materials and more time to complete. You still need to work one room at a time and you still only have two wires to work with; one black and one red.

Neuschwanstein Castle

Starting with the easiest first, the Neuschwanstein Castle is an elaborate display but is made up of five separate room boxes. When each room box was removed from the castle façade, I had plenty of room to run wires behind each box and added a quick connect so each unit could be re-inserted into the castle display.

My first task was to remove a very old, large and heavy transformer from the base of the castle. I replaced it with a single 6-amp power supply; ran two new tape-wire runs up the back wall where the individual room boxes ran up against. One run was on the left side and one on the right side from the



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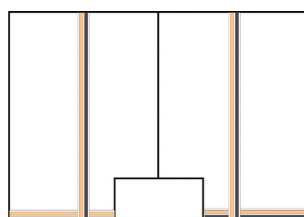
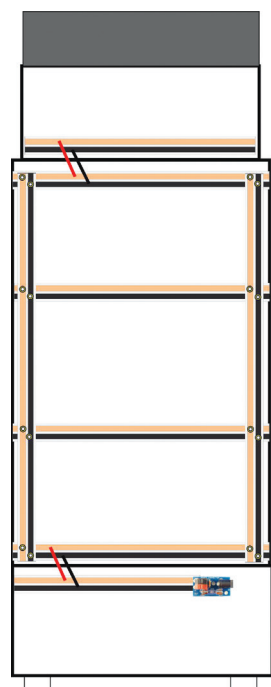


basement all the way into the turrets. That gave me power for the entire castle.

The main problem with the lighting was that the incandescent bulbs kept burning out quickly and a lot of heat was causing the gold leaf and fabrics to break down. I solved a lot of the heat issues by replacing all of the 'fluorette bulbs' with LEDs. There were over 50 fluorette bulbs. Even though I didn't have to rewire most of the boxes, it still took three full days to add all the LED ribbons and put the display back together.

Townhouse

The townhouse was rather easy too as I could take advantage of the entire back of the display. First, I ran tape wire horizontally on the bottom base and connected the power connector. One can connect it either on the left or right side depending where an outlet is. Since the base is separate to the main doll's house, as is the rooftop unit, I ran a mini-2pin connector between the base and the centre section as well as from the centre section to the roof unit. That is what the red and black lines represent. It also was done so one could separate the three pieces for easy moving if needed.



Drill 1/16" holes - back through black and red through red at overlap.



Top far left: The lights on inside the Neuschwanstein castle.

Top left: Electrical grid layout on back of townhouse.

Above centre left: Tape run on second and third floors.

Above left: Intersection of floor to wall tape run

Above: Five storey townhouse.

I then ran a grid of tape wire. Two vertical strips; one on the left and one on the right side. The horizontal runs are just above each floor level. That completed, we have 12 volts easily available for wiring each room on each floor of the townhouse. All you need to do is drill a small hole from the inside at the floor level out to the back to connect your inside wiring to the 12-volt grid for power.

The first floor has two shops: one on the left side and one on the right and they share a common entrance. There are two chandeliers in each store; front and in back. There was also need for some floor outlets. I ran flat tape-wire on the second floor centred to each room all the way from the back to the

front wall. It also ran just over one inch up the back wall. I ran a second flat tape run on the floor, along the front wall.

Make your connection at the overlap of the vertical and horizontal tape runs. (Red to red and black to black). I then ran the flat tape at one inch above the floor around the left, back and right



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walls on both the first floor and the second floor for outlets. On the second floor, the tape run I laid at 1" above the floor for outlets, lays over the end strip which was run up the wall from the floor pieces.

At that intersection I drill a 1/16" hole through the black-on-black and the red-on-red section of the two tape runs. I then strip a piece of wire and slide one end through the hole to the back of the cabinet to be soldered to the power grid we laid out earlier. Solder the stripped end of the wires to the two interior tape runs right where the stripped wire enters the hole.

I basically followed the same procedure for each floor. All of the fixtures ended up by being connected to 12 volts on the back wall. I just needed to figure out the best way to run either flat tape-wire or round wires from the fixture, through the back wall, and soldered to the 12 volt grid.

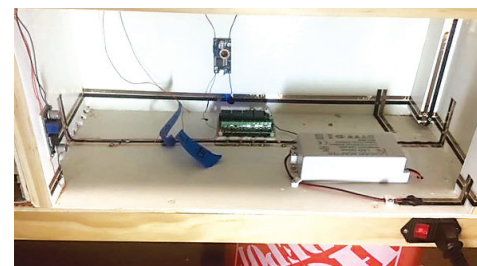
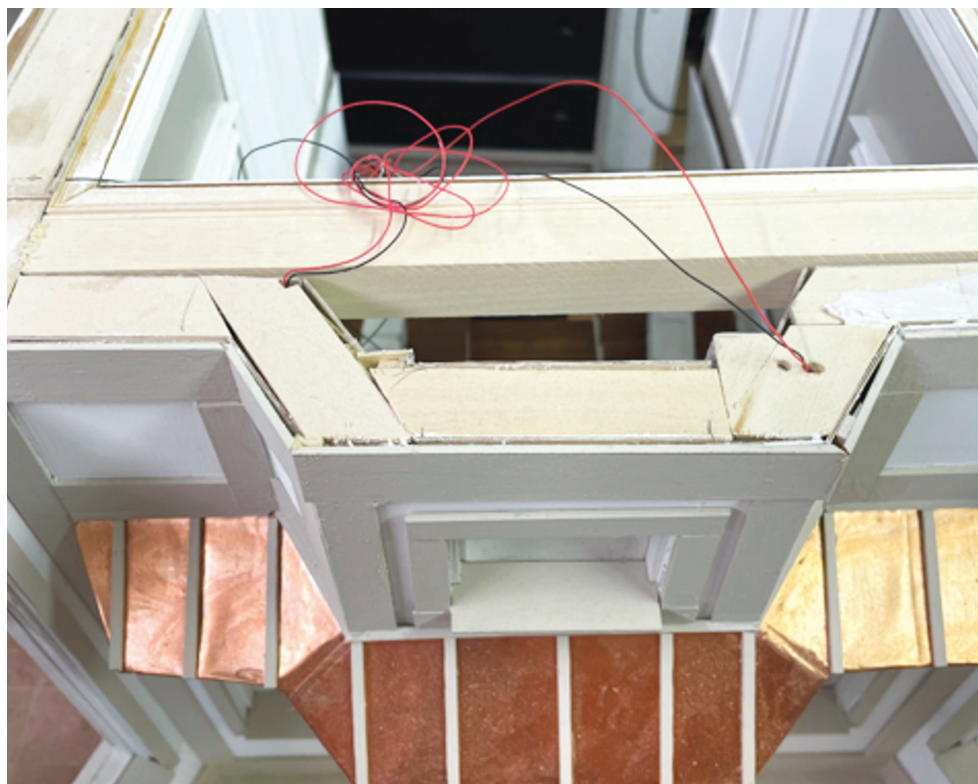
Tudor house

Jimmy designed his house with a dedicated electrical room in the basement and all of the different electrical components are located there. You can see the power supply in the front and a small remote control terminal board toward the back. On the wall is a voltage regulator for some special features we have.

Even though, this seven-foot-wide doll's house is extremely big and has enormous rooms with lots of indirect lighting and numerous chandeliers, sconces, and specialty features it still comes down to the same thing we have talked about in each of my articles.

There are only two wires that come from each light or feature. There are only two wires coming from our power supply. If we colour code each of those pairs of wires with one being black and one being red; the electrical wiring is extremely easy.

You can have as many red-to-red wire connections and as many black-to-black wire connections throughout the doll's house as you like and all your lights will work just fine. The real problem is in how to run and conceal all those red and black wires and how



Top: Two sets of wires running back to basement

Left: Tudor House

Above: Dedicated electrical room in basement

to bring them back to your black and red power grid.

I want to end this series with a couple of comments and suggestions. First and foremost, don't be intimidated with wiring your doll's house. Make up your mind that you would like to give it a try. You can not get hurt playing with 12 volts DC.

There is nothing to be afraid of and there is lots of help out there. Most individuals that call me for advice, I recommend that they download my Doll's house Wiring Booklet and look at some of my free video tutorials before purchasing anything. Second, I suggest that you take a couple of pictures of your house or room box, email them

to me, and give me a phone call. I will be glad to help you with what you will need to get started and available to assist if you run into a problem. You won't believe the satisfaction you can receive from wiring your own doll's house. Lighting can make all the difference. Bring your doll's house to life – LIGHT IT!

• For more information, check out my website at www.cr2s.com

LITTLE LINKS:

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