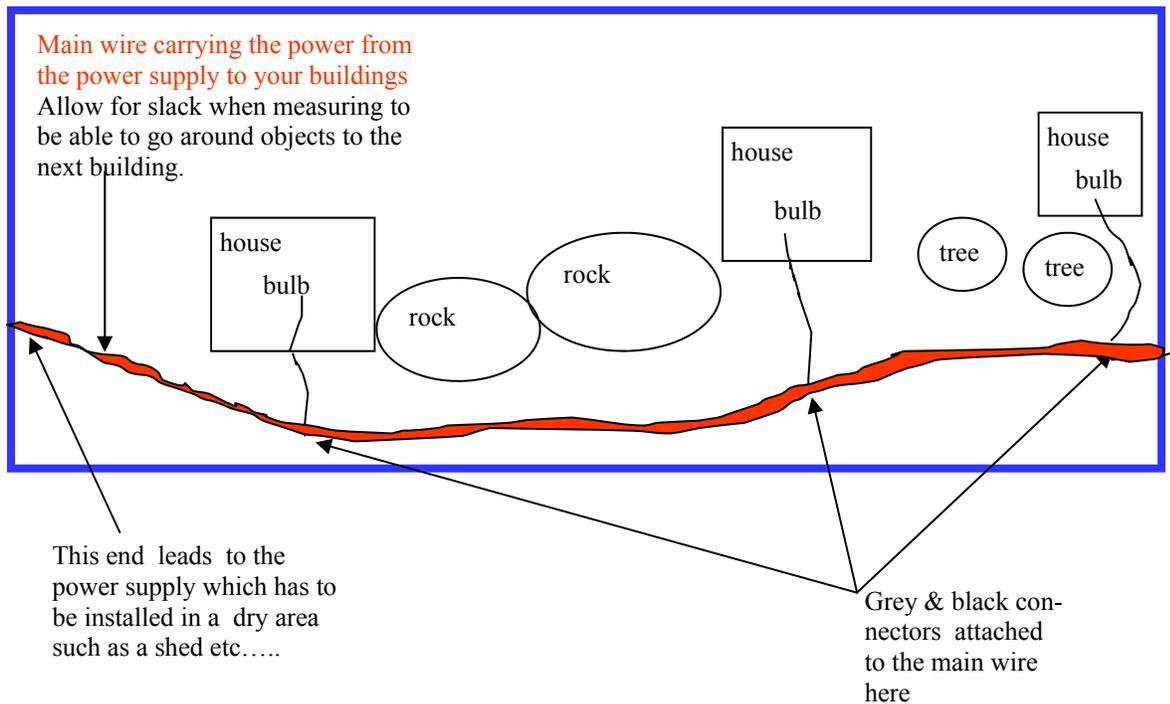


Easy way of wiring a house with Garden Lighting

Before you begin, determine where and how many lighted buildings you will have on your layout. This will determine the size of transformer you should buy and the length of wire you need. When you estimate the wire that you need measure for extra length, this will allow you to go around objects and sometimes you will have to take a round about way to the next building. See diagram below:



What size power supply?

Each house will have one bulb at 4 watts.

8 buildings at 4 watts each = 32 watts

One transformer usually allows for an extra 2 buildings which is 8 watts

If you buy a 50 watt transformer you will have plenty to play around with.

Please note that it is usually less expensive if you buy the garden lighting that comes in a set, the set usually contains: so many fixtures, wire, the transformer, and the bulbs. It is always handy to buy a roll of low wattage wire (available in the same section at the store) especially when you are doing the initial installation. Should you need more fixtures later on simply buy fixtures only, stock number stated in "Materials Needed"

MATERIALS NEEDED

Malibu Garden Lights # ML90401/1x9z (4 watts flood lights)

22 or 24 gauge stranded wire as needed

Shrink wrap 1/8" diameter

TOOL S NEEDED

Wire strippers

Needlenose pliers

Exacto knife

Solder 60/40 (this is electrical solder which contains flux)

Soldering iron



Photo 1

Step 1

Remove the four parts shown on [Photo 2](#) from one of the garden light bags. (socket, bulb, and 2 wires with pin connectors)

Step 2

Figure out the distance from the bulb (inside the house) to the power supply cable.

Cut 2 pieces of the stranded wire the distance measured above.



Photo 2

Step 3

Locate the two wires with pin connectors, one has grey press fit socket and the other has black press fit socket. See item 3 in [photo 3](#)

Cut these two wires in half (we are making those wires longer). See item 4 in [photo 3](#)

Now strip 1/4" of wire insulation off of the ends of the wire.

Cut 4- 5/8" pieces of shrink wrap see item 9 [photo 3](#)

Slip one piece of shrink wrap on ends of wires previously cut. See item 4 [photo 3](#)

Tin wires, by applying solder to stripped ends, enough to soak into the wire.

Using needle nose pliers, make small hooks at the tinned ends. See item 4 [photo 3](#)

Step 4

Hook the added wire to the original wire and using needle nose pliers, make sound mechanical connection. (squeeze two ends together.)

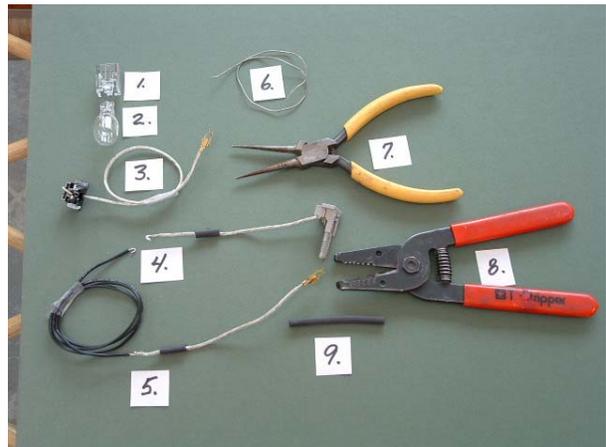


Photo 3

Step 5

With soldering iron, heat the mechanical connection and add solder. (**Not too much**)

Step 6

Slip the piece of shrink wrap over the connection and using a match or lighter, run the flame along the shrink wrap only momentarily. The shrink wrap will shrink and will now stay in place and will ensure there are no shorts.

Step 7

Take socket item 1 [photo 3](#) and insert the pins as shown in [photo 4](#). Make sure you insert the pins at the grooved end of the socket.

When pins are in place, you will hear an audible click.

Now, insert the light bulb in other end of socket, no specific orientation. See [photo 5](#), you now have a light bulb in a socket with longer wires that will reach to your main wire ([red wire on illus. page 1](#))



Step 8

Install the main power cable to power supply as shown in [Photo 6](#) The round wire will plug into a 110V socket later.

Step 9

Take the black press-fit connector and position it per [photo 7](#)

Take the grey press-fit connector and position it so that ends of black connector will fit into grey connector and vice versa. See [photo 8](#)

The idea is to have the metal contacts from either connector pierce the main power line see [photo 9](#).

Press the grey and black connectors towards each other as far as possible. See [photo 10](#)

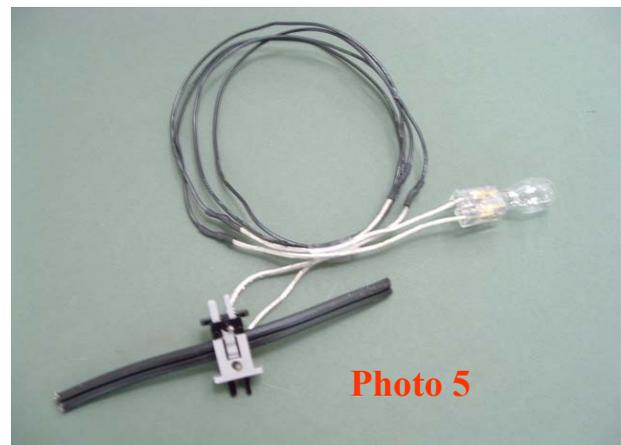


Photo 6

Photo 7

Photo 8

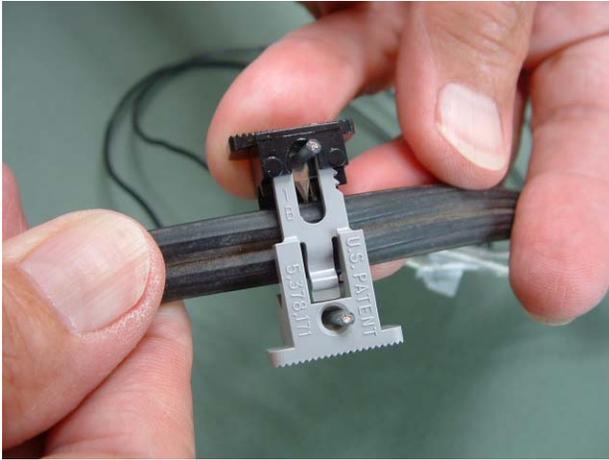


Photo 9

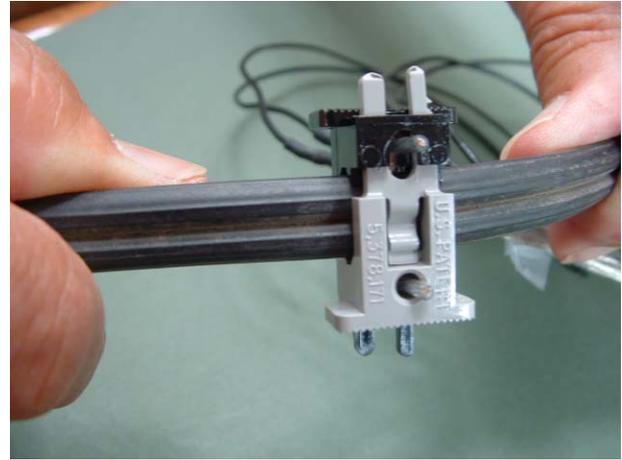


photo 10

Step 10

Now you need to install the light in the house. I like to silicone a piece of wood or styrene to the roof and then drape the light bulb over it. I like to secure the socket to the wood, just to prevent scorching of the wires, should the bulb come in contact with the wires. You may use clear silicone do to this also.

Congratulations! You have just learned to wire all of your buildings if you wish.

You may want to disguise the wires by covering them with mulch.