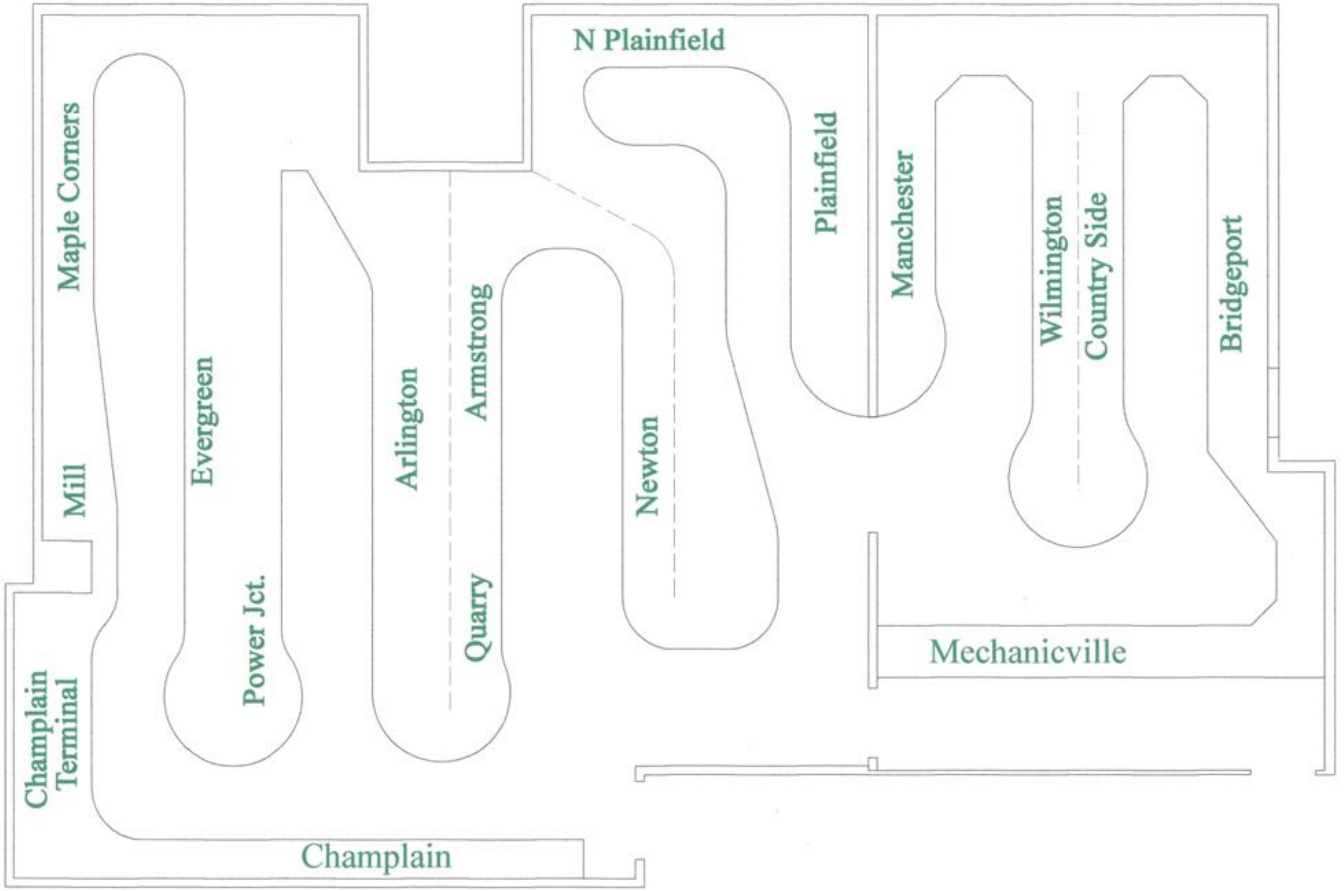
NWV EDUCATION SERIES

DC PANEL

Back Ground

- Control Panel Can Have Many Uses
  - Track Power Control
    - DC Layouts
  - Turnout Control
    - Track Routing / Selection
  - DC Power Distribution
    - Power for DC Devices
      - Street & Structure Lights
      - Track Side Signals
      - Tortoise Switch Machines

NWV Layout Overview



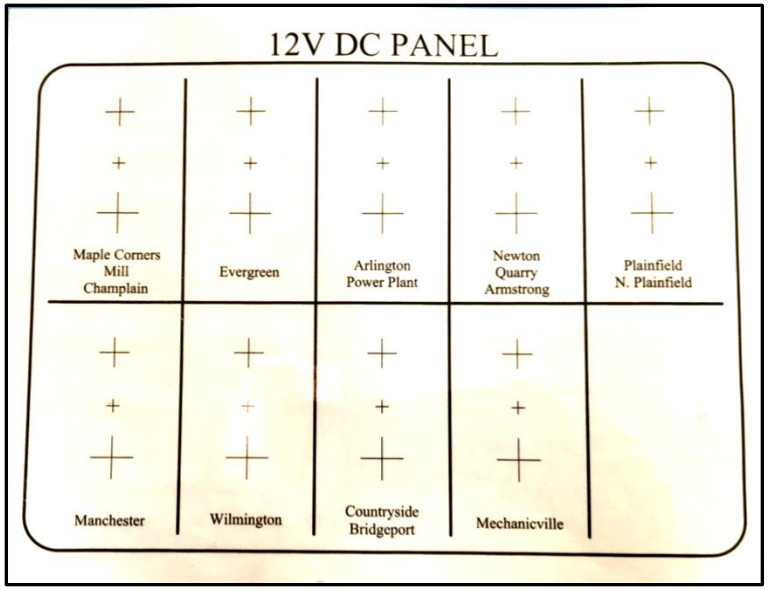
Requires Multiple DC Circuits – Lights / Signals

DC Supply Panel
Step 1 Design

- Support Large Layout Configuration:
  - Multiple Towns Across
  - Multiple Peninsulas
- DC Power Distribution
  - Divide Layout Into 9 Power Sections
    - Each Section
      - On / Off Switch
      - Power Indicator Light
      - 2 Amp Circuit Limiter

DC Supply Panel
Step 2 Graphic Face

- Use a Graphic Design Program:
  - Design Control Panel Face
  - Print Design on 8 ½ x 11 Plain Paper
  - Seal Page w/ 3 mm Lamination



DC Supply Panel
Step 3 Panel Frame

- Build Frame Using Pine Boards:
  - 1 x 2 Pine w/ Saw Blade Slot
    - Slot in Frame Will Hold The Panel Face
    - Slot Cut w/ Table Saw or Radial Arm Saw
      - Cut Slot ¼ " Deep
    - Width May Require Multiple Passes
      - To Secure The Correct Width

Slot
Will Hold
Panel Face

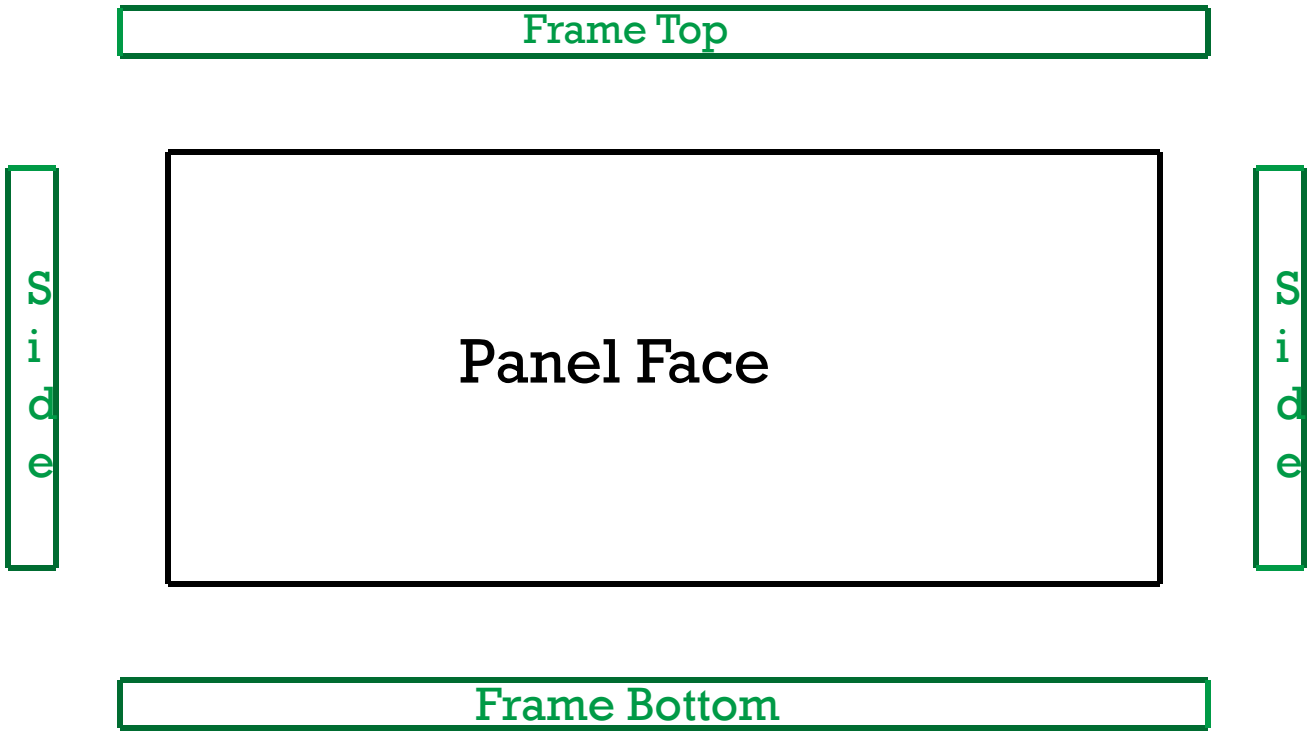
DC Supply Panel
Step 4 Panel Backing

- Cut a Backing Plate from Thin Plywood
  - Size the Plate @ 9 x 12 Inches

DC Supply Panel
Step 5 Face Assembly

- Apply Spray Glue to Thin Plywood
  - Place Lamination on Plywood
  - Press into Place
  - Set Aside To Dry

DC Supply Panel
Step 6 Frame Plan

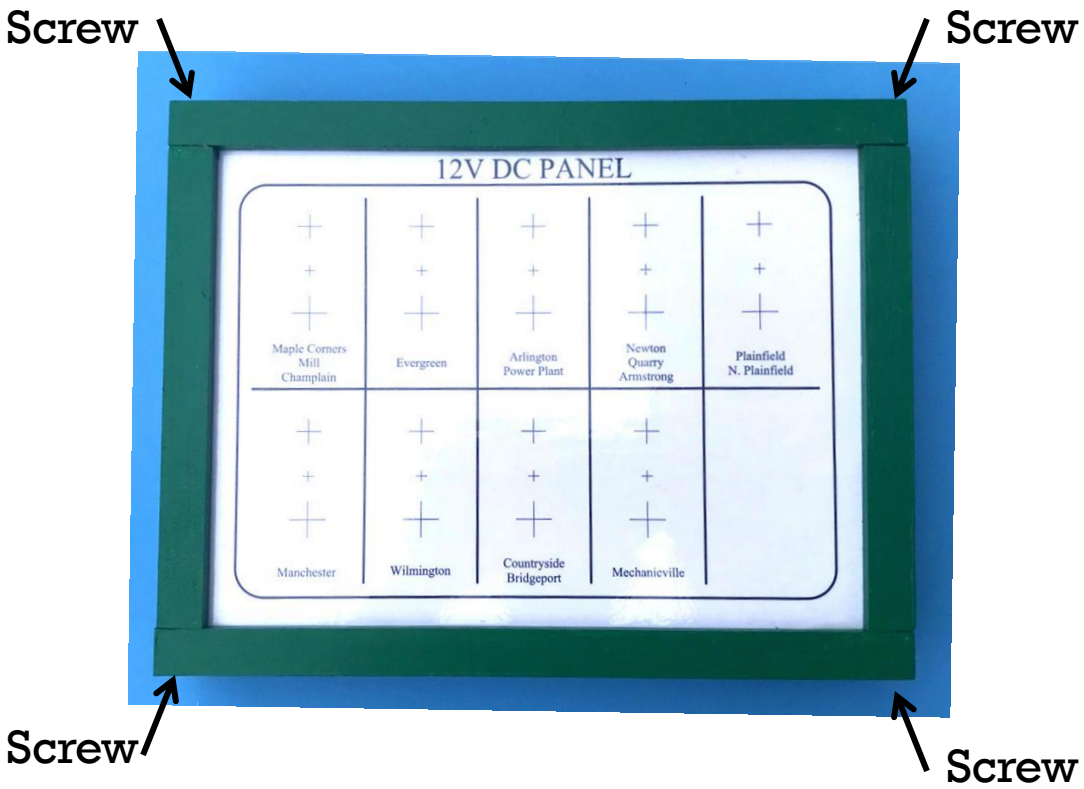


DC Supply Panel
Step 7 Frame Construction

- Trim Plywood / Panel
  - Remove Extra Material
  - Leaving 8 ½ x 11 Image
- Set Frame Pieces – One on Each Side
  - Place Third Piece Across Top
  - Measure Top Length
    - Cut to Size, Make Two: Top & Bottom
    - Use Top & Bottom Pieces To Set Side Length
- Paint All Four Pieces Before Assembly

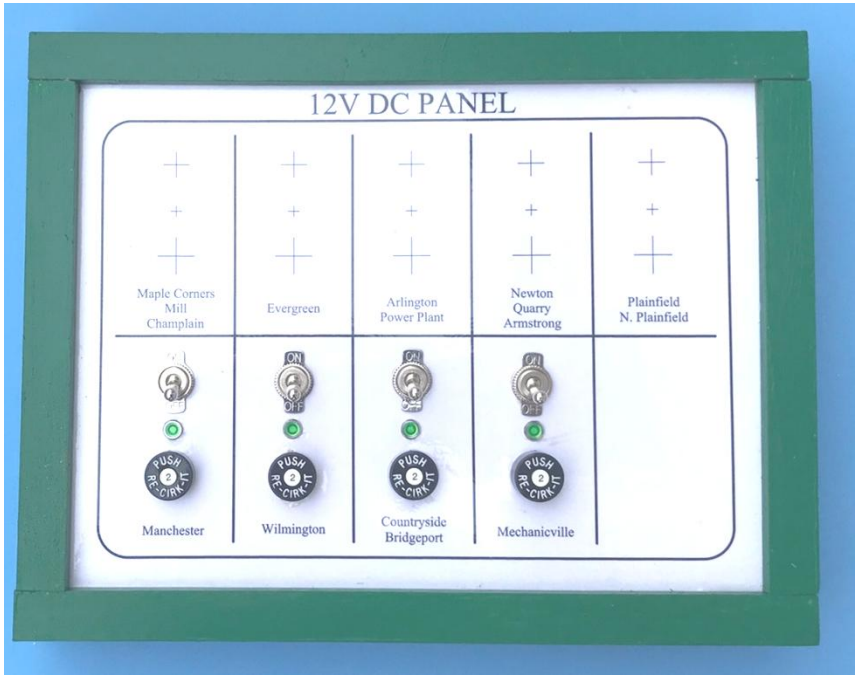
DC Supply Panel
Step 8 Frame Assembly

- Place Frame Around Panel
  - Drill Pilot Hole in Each Corner
  - Insert a 1 ¼ Inch Screw in Each Hole

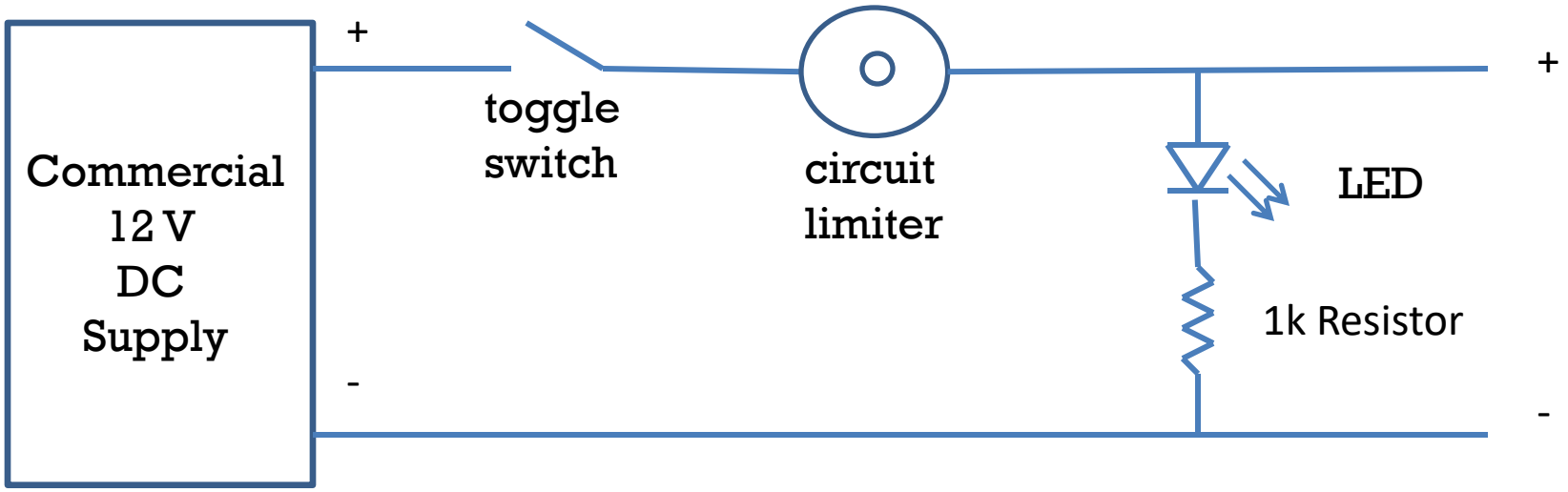


DC Supply Panel
Step 9 Insert Components

- Drill Holes
  - ½ Inch => Toggle Switch
  - 1/8 Inch => LED Indicator Light
  - 5/8 Inch => Circuit Limiter



DC Supply Panel
Step 10 Wired Components

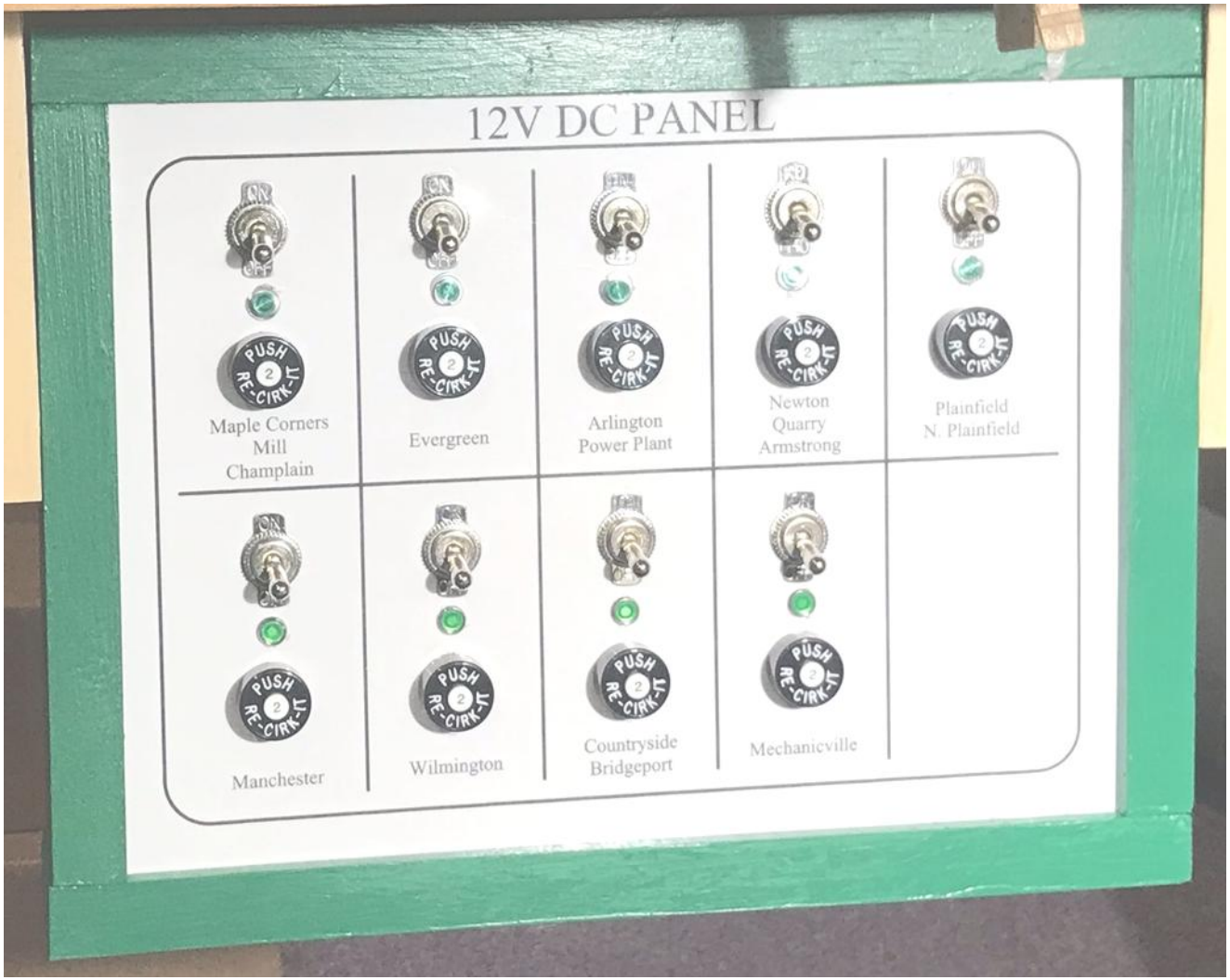


Example Requires 9 Circuit Copies to Support 9 Layout Sections

Wire Each Output

- Install a DC Bus in Each Layout Section
  - Recommend 18 Gauge Bus Wire
- Connect Each DC Panel Output
  - Provides Independent Power
  - Allows Each Section to Be Isolated
    - Easier Problem Analysis Across a Large Layout
  - Current Limited – 2 Amps Per Section
  - Manual On / Off Control
  - Power On LED Indication

DC Supply Panel Installed



END

DC PANEL