

# Layout Photography Equipment and Lighting



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PCR Convention  
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# Outline

- **What is “Layout Photography?”**
- **Composition, choice of angle.**
- **Types of Digital Cameras/Pros and Cons.**
- **Focus, Depth of Field.**
- **Lighting.**
- **A Word about Decks.**

# Types of Model Railroad Photography

- Bird's eye or Google Earth shots.
- People and their trains (includes Op Sessions).
- Layout visits - "Legacy Pictures."
- Closeups of individual models or techniques.
- **Replicate look of prototype scenes.**

# Three Basic Guidelines for a Good Photograph

- **1. Theme or focus - What's the subject/purpose?**
- **2. Emphasize whatever draws attention to #1**
- **3. Eliminate or minimize what distracts from #1**

# Goals of Layout Photography

- Real life perspective.
- Depth of field.
- Good lighting and exposure.

## Technical Challenges

- Depth of Field, Lighting.
- Tight spaces, avoiding distracting eyesores.

# Angles: Low



# Framing and Lines



# What's the Subject?



# Mid Angle



NWP RRHS

# High Angle



Ted Benson

# Composition

- **Track produces visual patterns, draws viewers eyes.**
- **Real trains, not train set: Avoid overcrowding with rail equipment, spaghetti bowtel tracks, etc.**
- **Avoid distractions (e.g., visible edge of layout, misaligned details, white specks in scenery, unweathered figures, ground throws, critter infestations, backdrop/scenery transitions, out of focus objects, etc.).**

# The Model Railroader

Exclusively Model Railroading

April, 1937

20c a copy; \$2.00 a year

*see p158  
Atlantic 00  
P133 Flat Car.*

Vol. 4, No. 4



4-4-0 and Old Time Coaches on Bill Lenoir's O Gauge Chicago Great Western.

**Plans for a Prairie Type; Minneapolis Model Rails**

THIS MAGAZINE HAS THE LARGEST CIRCULATION OF ALL PUBLICATIONS DEALING WITH SCALE MODEL RAILROADS.

# The Model Railroader

November

1944

25c

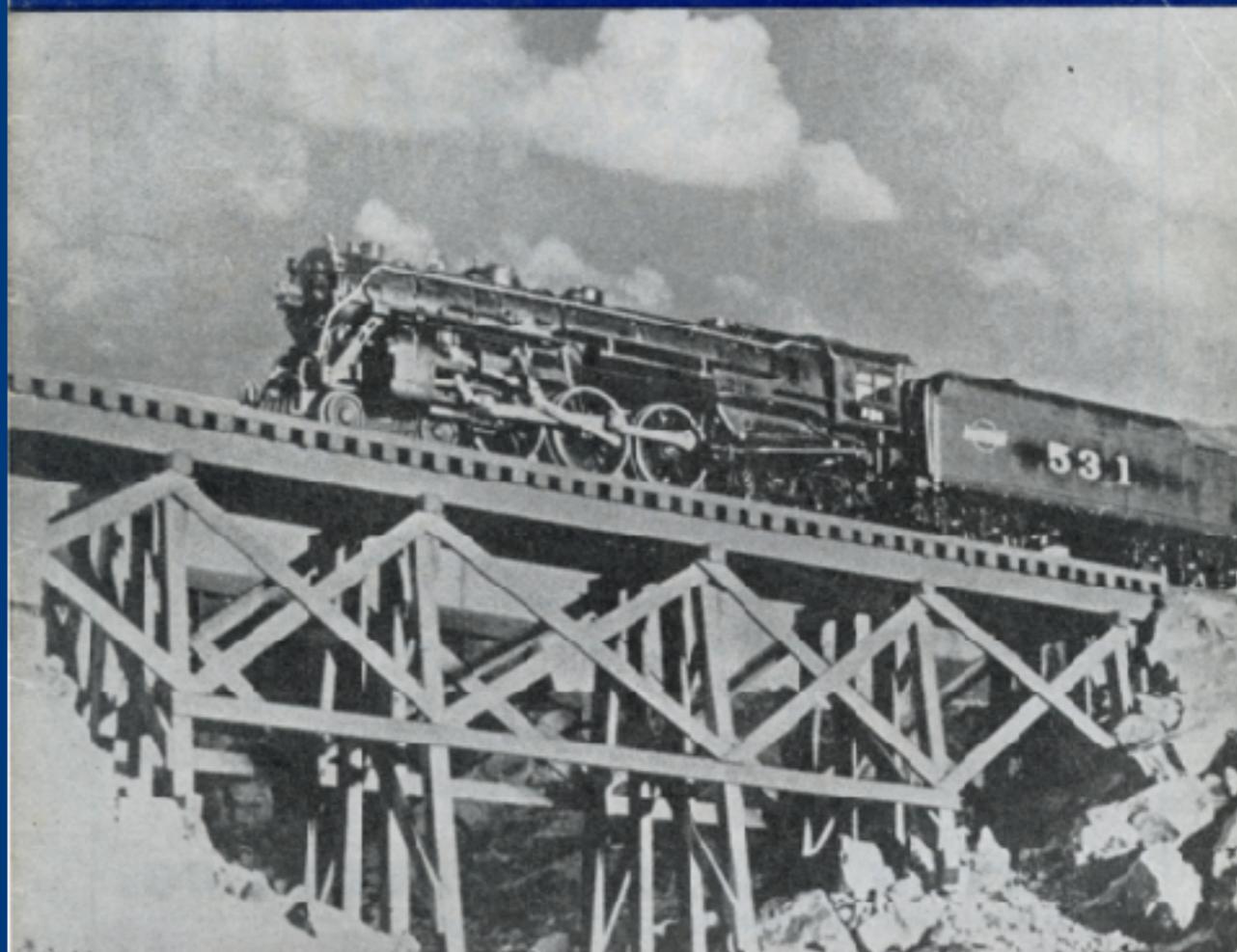
\$2.50 a year

Exclusively Model Railroading

Vol. 11, No. 11

Price 25c a copy; \$2.50 a year

Made in U.S.A.



Northwestern Lines of Earl Hendricks, Oakland, Calif.

*In this issue*

HOW TO CONNECT SWITCHES • KINKS

TREES FOR YOUR LAYOUT • BOOMER PETE

CIRCUIT BREAKERS • LOCO DRAWINGS

CARDBOARD BUILDINGS • CLINIC

# Example of Distractions



f/32, 1.0 sec, ISO 800

# Cameras

- Advantges of Digital Cameras:

- Low light performance.
- Color balance control (automatic or custom).
- Post processing.

- Types of Digital cameras

- **Fixed Lens**



- Point and shoot, compact.

- Smartphone

- Bridge/Superzoom



- **Interchangable Lens**

- Mirrorless



- DSLR



# Smartphone Cameras

## Good News

- **Small, easy to position on layout surface.**
- **Best for closeup, “real,” perspective.**
- **Some control over focal length via “zoom.”**
- **Can choose focus point.**
- **Close focusing.**

## Not So Good News

- **Very shallow depth of field because of wide apertures.**
- **No control over exposure.**
- **No control over aperture.**
- **No control over color balance.**
- **Very small sensor, optics not as good.**

# Smartphone Photos





*layout by Tony Thompson*

# Focus on Focus

- Depth of field maximized by smaller f/stop, shorter focal length, and longer distance from camera to focus point.
- Aperture Priority or Manual Exposure.
- Manual versus auto focusing.
- Focus stacking

# Shallow Depth of Field



# f-stop and Sharpness



# Focus Stacking or Blending w/DSLR

Middle



Back



Front





*layout by Ron Learn*

f/32, 1.0 sec, ISO 1250, focus stack, ambient light



*Northern California Free-mo module*

*f/36, 13.0 sec, ISO 200, focus blend, ambient light*

# iPhone Camera Stats/Features

- **Two Cameras (12MP)**
  - “Portrait” (f/2.8, focal length 6.6 mm)
  - “Wide Angle” with zoom (f/1.8, focal length 3.9 mm to 6.6 mm).
  - 35 mm equivalent 28 mm-57 mm.
- **Image stabilization.**
- **HDR in camera.**
- **jpeg files.**
- **You control:**
  - **Composition, focal length**
  - **Focus Point**
- **You can't control:**
  - **ISO**
  - **White Balance.**
  - **Exposure Mode.**
  - **Aperture.**
  - **Shutter speed.**

# Height of Imaginary Camera in Ground Level Shots (Using iPhone 7 Plus “wide angle”)

Approx Height (scale feet)

	<u>O</u>	<u>HO</u>	<u>N</u>
DSLR	7 ½	13 ½	25 ½
iPhone Portrait	3	5 ½	11 ½
iPhone Wide Angle	1 ½	2 ½	6

# Phone Camera Caddy



# Smartphones and Low Angle

## Need focus Stacking



# Smartphones and Low Angle With Focus Stacking



iPhone 7 Plus, f1.8, 1/25-1/30 sec., ISO 160-200, focus stack, ambient light



**iPhone7 Plus, f1.8, 1/15-1/30 sec., ISO 125-200, focus stack, ambient light**



**iPhone7 Plus, f1.8, 1/30 sec., ISO 32-40, focus stack, ambient light**



**iPhone7 Plus, f1.8, 1/17-1/30 sec., ISO 125-200, focus stack, ambient light**

**Similar shot w/ DSLR, 42 mm focal length**

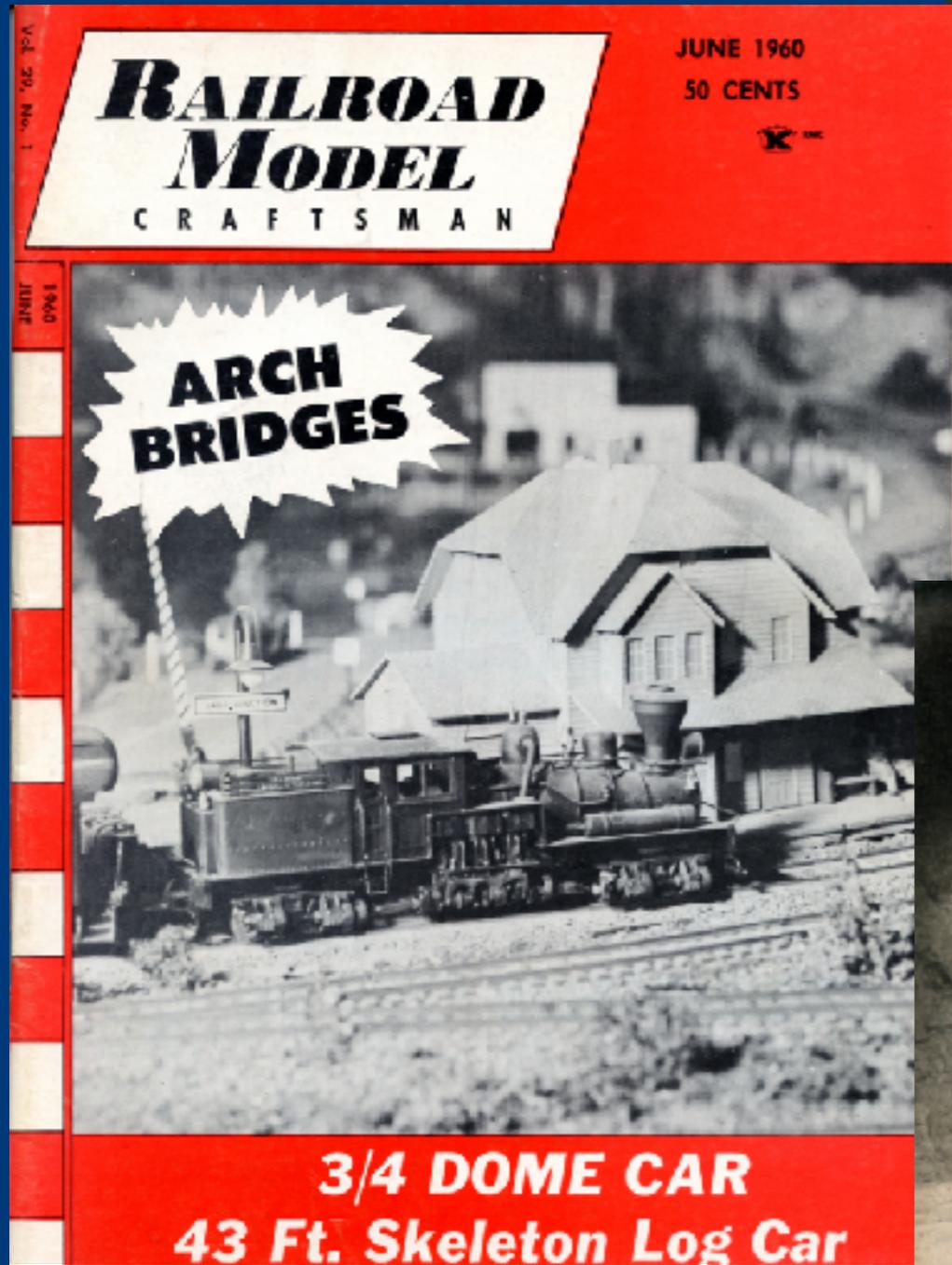
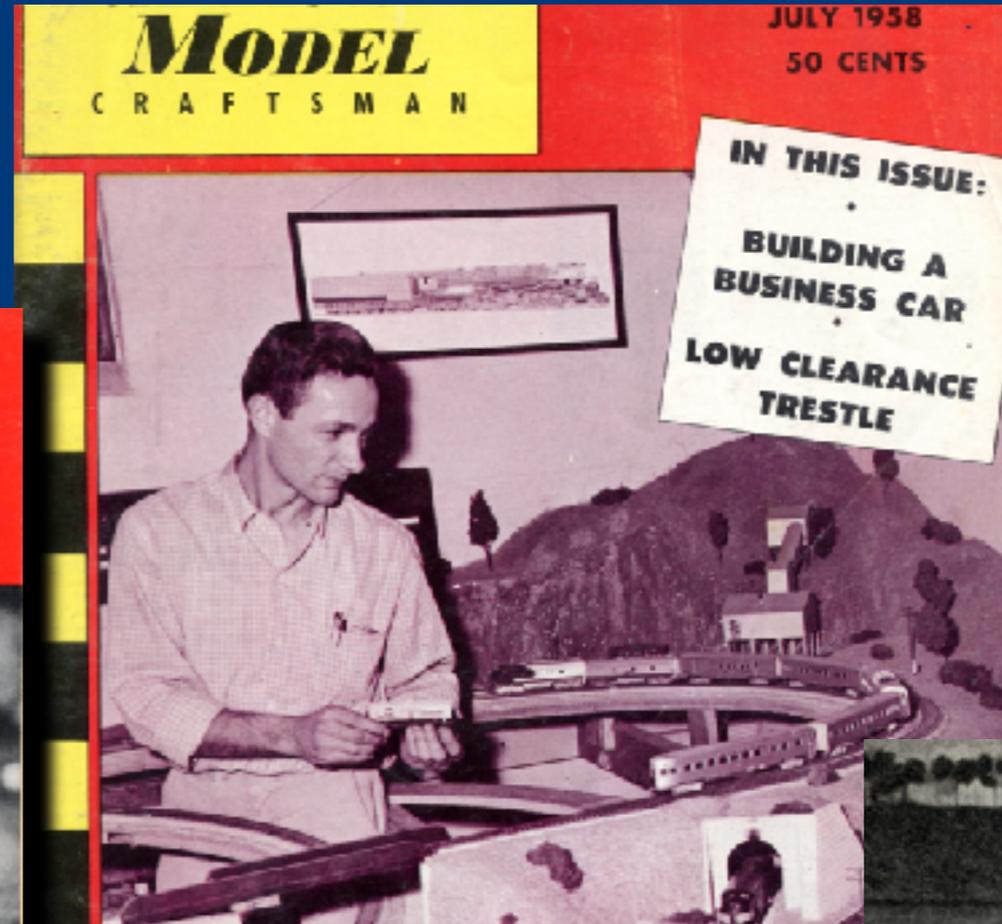


**f/4.2 (22), 0.8 (13) sec., ISO 100, focus stack, ambient light**

# Lighting

- **Light Sources**
  - **Incandescent**
  - **Florescent.**
  - **LED**
  - **Flash (Strobe)**
- **Setup**
  - **Ambient (layout/room) light.**
  - **Standard single or two light setup.**
- **Light Balance - Auto, Presets, Custom.**

# Examples of Bad Lighting



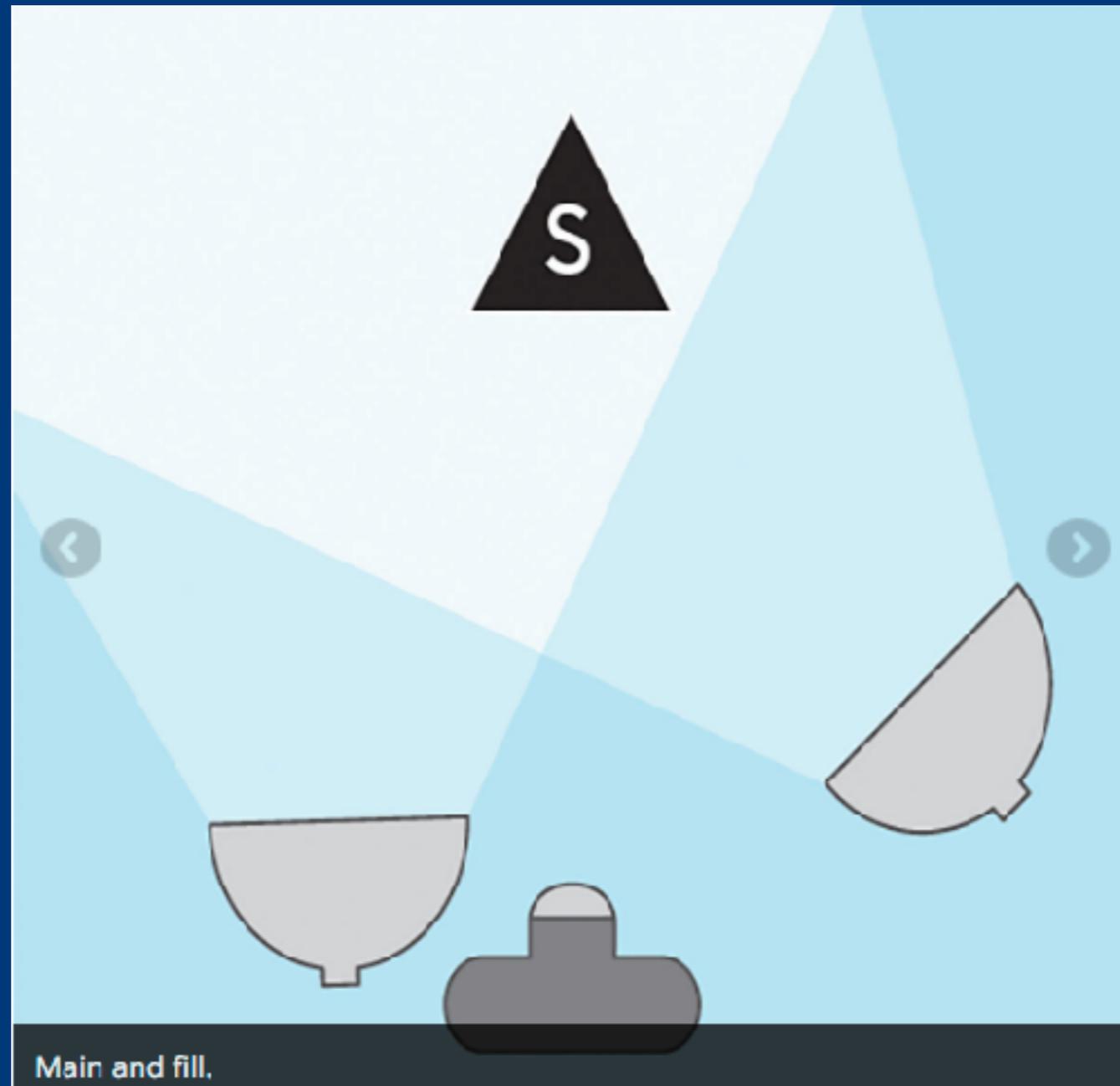
# Demo without Upper Deck or Valence Issues



# Ambient Light



# Standard Two Light Setup



New York Institute of Photography



NMRA

# Bulletin

Official Publication of the National Model Railroad Association

April 1996



**INSIDE**  
**USING THE ORER**  
**THE DEPOT AT WICK**  
**CLIFF SPRINGMEIER'S EMPIRE**

# On Camera Direct Flash



# Bounce Flash 45°



# Bounce Flash 90°



# Off Camera Flash



# Diffusion Dome



# Softbox



# Umbrella



# Single Main Light



# Single Main Light Through Umbrella



# Low Angle Spot with Amber Filter



# Bounce Flash



*layout by Bill Wells*

f/32, 1/60, ISO 1250

# Bounce Flash



f/32, 1/60, ISO 1250

layout by Bill Wells

# Ambient Light



*layout by Verne Alexander*

f/29, 1/20, ISO 1000

# Ambient Light



*layout by Harold Mentzer*

f/22, 1/6, ISO 3200

# Ambient Light



*layout by David Parks*

f/20, 1/8, ISO 2000

# Ambient Light



*layout by Bruce Petty*

f/11, 1/20, ISO 3200

# Ambient Light



f/20, 1/20, ISO 8000

*layout by Tom Stevens*

# Multi Deck Challenges

- **Limits on angles, space for equipment.**
- **Hotspots.**
- **Backdrop Shadows.**
- **Blemishes.**
- **The Search for Best Lighting Setup.**

# Unwanted Detail on Backdrop



# Fix by Adjusting Focus Point and Depth of Field, Adding Blur, Healing Brush



# Shadows

