

Contents

INTRODUCTION

The space problem4
Fitting scenery and operation into tight areas

CHAPTER ONE

The Raritan River Railroad8
An around-the-tree HO layout

CHAPTER TWO

The Norwest Terminal16
An HO scale cabinet-top switching layout

CHAPTER THREE

The Pacific Union Railroad27
An Ntrak module that doubles as a home layout

CHAPTER FOUR

The Pacific Union Extension42
A coffee-table N scale layout

CHAPTER FIVE

The Brookeville Division50
An N scale layout in an end table

CHAPTER SIX

The Freedomia Transportation Authority .62
An N scale trolley layout on a rolling cart

CHAPTER SEVEN

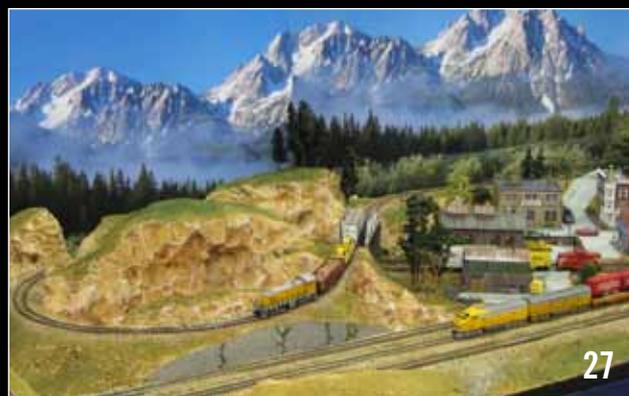
Coal River & Southern74
An ultra-lightweight sectional O scale layout

CHAPTER EIGHT

Compact work area84
A portable work station for tools and supplies

CHAPTER NINE

Additional space-saving ideas88
Building folding legs and rolling carts





1



2

The author's son, Brian, rolls the Chapter 3 layout into a storage location, using the cradle described in Chapter 9.



3

The author's wife, Erna, enjoys the end table featured in Chapter 5. The complete, continuous-running layout takes no room at all, as it still serves its furniture function.

INTRODUCTION

The space problem

Ideas for fitting ample scenery and operation into small areas

The author's daughter, Stephanie, operates the layout shown in Chapter 3. It is really two layouts in one: a home layout and club module. The layout rolls away on a flip-up base for quick and easy storage to save space.

Have you ever thought that you would like to have a model railroad layout, but that you had no space to build one or not enough space to do it right? This book will convince you that a respectable, detailed, and operable layout can take little or even no additional area from your home. All it takes is some creativity in locating and/or storing your layout, 1. With the innovative ideas in this book, space is no longer an excuse!

Many modelers find themselves living in a small house, apartment, or condominium, with only a small room (or portion of a room) available for a model railroad. You may even be living in a college dorm, military barracks, or mobile home.

Where does this leave so-called "armchair" modelers who want a place to see their daydreams become reality? Traditionally, these individuals could concentrate on collecting, making individual models, building dioramas, or simply planning a layout for a time when more space is available.

Some modelers join clubs that have permanent layouts. Modular layout groups have grown in popularity. Members of these groups have one or more modules (layout sections) that can be set up together at public shows to form a larger continuous-running layout. An example is Ntrak, a national organization that sets standards for N scale modules.

Clubs and modular groups are great ways to model or operate trains with little or no space taken up at home. But at home, many members of these groups either have no layout or only have individual modules. These modules usually don't have continuous running capabilities or enough switching features to make them interesting enough to operate by themselves.

Creative space solutions

Suppose that you want more than what traditional space-saving solutions offer. This book offers two ways to make that happen by using space creatively. One is creative layout storage methods and/or locations, 2. The other is incorporating the layout in a piece of furniture, 3. I also show how to provide an operable home layout within a module for club use.

My ideas have come about because of the space constraints in my own home and my will to overcome them.

Being a woodworker as well as a modeler, I came up with many of the ideas featured in this book. Along the way, I incorporated space-saving concepts other modelers have used to solve their space problems. I boiled all of that information down to the layouts featured here, while emphasizing the use of simple tools and techniques and readily available materials. Anyone can duplicate these layouts, even with little or no woodworking experience.

Advantages and possibilities

The time involved in building a layout can be as (or more) enjoyable for some than operating it. This includes me. However, many people have busy schedules or multiple jobs. Small layouts take less time to build—as well as maintain. Don't forget that the larger the layout, the more time you will have to spend on tedious maintenance, such as cleaning track and wheels. Some modelers have dismantled larger lay-



4 A railcar makes the rounds of Freedonia as the city fire department tends to an early morning blaze. This highly detailed scene is on the compact layout described in Chapter 6.

outs in favor of smaller ones because of the maintenance required.

This does not mean a small layout must necessarily be a very simple one. You are much more inclined to make a layout highly detailed if it is small, both from the standpoint of time and the impact on your pocketbook. This is evident in many of the layouts featured in this book, especially the urban scenery, 4, in Chapter 6. Large layouts can lack detail, making them less interesting to view. Even if your interests are operation-oriented, running trains is more fun in a nicely detailed setting.

Another advantage of small-space modeling is portability. This came to me as an afterthought, since I had no idea when I started the trolley layout many years ago that I would be bringing it to shows. All the layouts in this book will fit in a van, pickup, or sport utility vehicle. Some will fit in a car trunk or hatchback, 5.

Portability also comes in handy at moving time—something families are facing now more frequently than ever. I recommend that all home layouts, regardless of size, be built in sections to allow them to be relocated at some point in the future, as household moves cannot always be planned or anticipated. Even if joints between sections are concealed with scenery, they can be disconnected, moved, and reconnected with relative ease.

Outdoor photography is easy with small layouts. Instead of relying on expensive photo lights, move that layout outside for some realistic sun.

Small layouts can be covered relatively easily—several methods of doing this are shown throughout the book. Covers provide many benefits. The track will rarely need cleaning because dust is kept out. Small fingers and paws are foiled very effectively, saving your layout from needless damage. Layouts are also much more presentable this way and can be located in rooms where many of your non-modeling guests can see your work.

Some may wonder if enough train operation is possible to keep their interest up in a small space. If switching (picking up and setting out cars) is your main interest, there is no question. Continuous running is entirely feasible, especially in N and Z scales. Dining tables have been made with continuous-running HO scale layouts. Narrow gauge also increases your possibilities by decreasing the minimum radius needed.

If you are a beginner, starting small is a practical approach. You will make mistakes, but they will be on a small scale on a small layout. Errors will be easier to fix and you are less likely to give up in frustration.

You can expand small layouts when more space becomes available. John



5 Brian's 2' x 4' Ntrak layout "Cruisin' Weekend" is in the back seat of the author's compact vehicle on the way to a show.

Allen, one of the fathers of contemporary model railroading, incorporated an early 4' x 7' layout into his eventual basement-filling empire. Simply include turnouts that lead track "off layout" in the interim—such as the interchange track in one corner of the layout in Chapter 5. Another idea is to place an entire small layout—such as the trolley layout in Chapter 6—into a city scene in a larger layout.

There are many ways of making your layout seem bigger than it is. Bridges, tunnels, scenery view blocks, and mini-scenes all do this by breaking up the layout to the viewers and operators, 6, 7.

Two basic modeling concepts are important for small-space modelers. One is selective compression. This means decreasing the size of a feature to fit on a layout. Many prototype industries, for instance, would take up the space of an entire layout in this book if modeled in actual proportions. Our space limitations dictate that we reduce the size of our buildings and/or industries to fit the space available.

The other concept is "beyond the layout" thinking. One example is imagining that your layout is part of a larger rail system. Interchange tracks (imaginary connections to a larger rail system) and separate staging areas are examples. Another is an industry that is only partially modeled on the layout

Suggested tools

Required for all layouts

- Hand saw and miter box (or electric circular or saber saw)
- 3/8" drill (battery or electric)
- Twist drill bit set and countersink bit (or pilot bit)
- Sanding block or electric sander
- Claw hammer
- Nail set
- Needle-nose pliers
- Screwdrivers
- Measuring tape or yardstick
- Small putty knife
- Paintbrushes
- Hobby knife
- Tweezers
- NMRA standards gauge

Required for some layouts

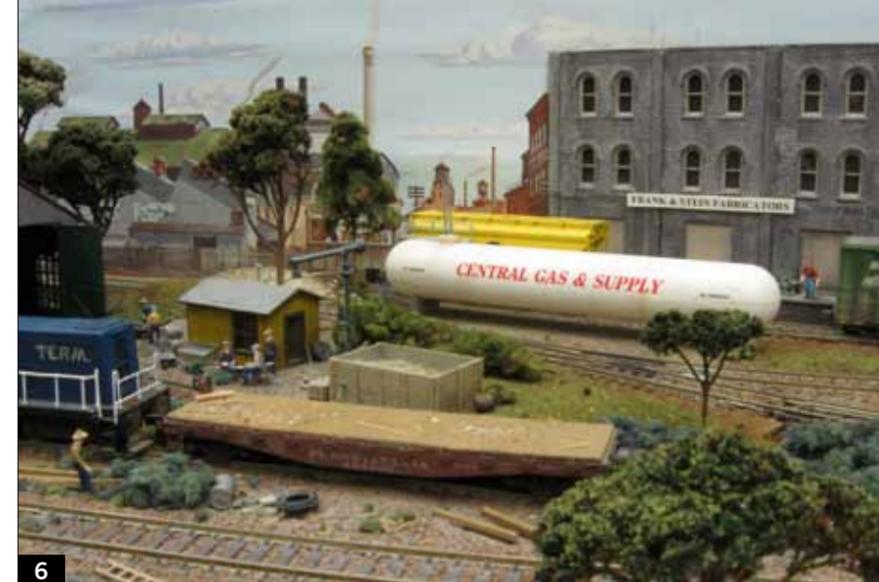
- Soldering iron, solder, flux
- Wire strippers
- Flush cutting rail nippers (or motor tool with cutoff disk)
- Metal file
- Miniature drill (pin vise) and bits (nos. 61-80)
- Adjustable wrench or wrench set
- Hot glue gun (with low-temperature setting)
- Carpenter's square
- Clamps (various types)
- Craft pins

to save space; the rest is presumed to be out of sight.

Making the best use of this book

All of these project layouts require no more woodworking ability or tools than would be needed for a more traditional layout's benchwork. A large or expensive tool collection is not required (see above). Most lumber suppliers will cut wood to size for little or no cost. For those with more tools or greater abilities, I illustrate some intermediate and advanced ideas in Chapter 9.

Each chapter builds on the previous chapter(s) to some extent. Model-



6 Details and humorous names such as these from a scene from the layout in Chapter 2 attract attention and maintain interest.



7 The visible scenery in this photo of one of the author's Ntrak modules only takes up about a square foot of space. The main thing to do is get out of your chair and get your hands dirty, even building a small scene with a some track, a few structures, and a little scenery.

ing skills in earlier chapters are not repeated in later chapters. For example, basic scenery is shown in Chapter 1 and hill construction and rock coloring in Chapter 3. The first two chapters use sectional track, with flextrack for most of the later layout chapters. I indicate where you will need to refer back to other chapters.

I included a variety of eras, settings, and locations for the project layouts. Any of them could be set in a different era by simply changing the vehicles and rolling stock. To a smaller extent, signs and structures also date a layout. Remember that structures survive for

many decades, or even centuries. Some modelers prefer to model specific prototype railroads, locales, eras, or even specific dates.

Mix and match ideas from the projects in this book to best serve your desires, abilities, or funds.

Challenge yourself, but be honest; don't bite off more than you can chew. If you get discouraged, you may leave this great hobby temporarily or permanently. The goal of this book is the opposite: to bring you into the excitement and camaraderie of active model railroading. Now let's get out of the armchair and have some fun.



1



2

It's easy to store the layout upright in a closet. Leaving the backdrop in place protects the structures.



3

Engine No. 2 has just spotted an empty flatcar at the container yard.

CHAPTER TWO

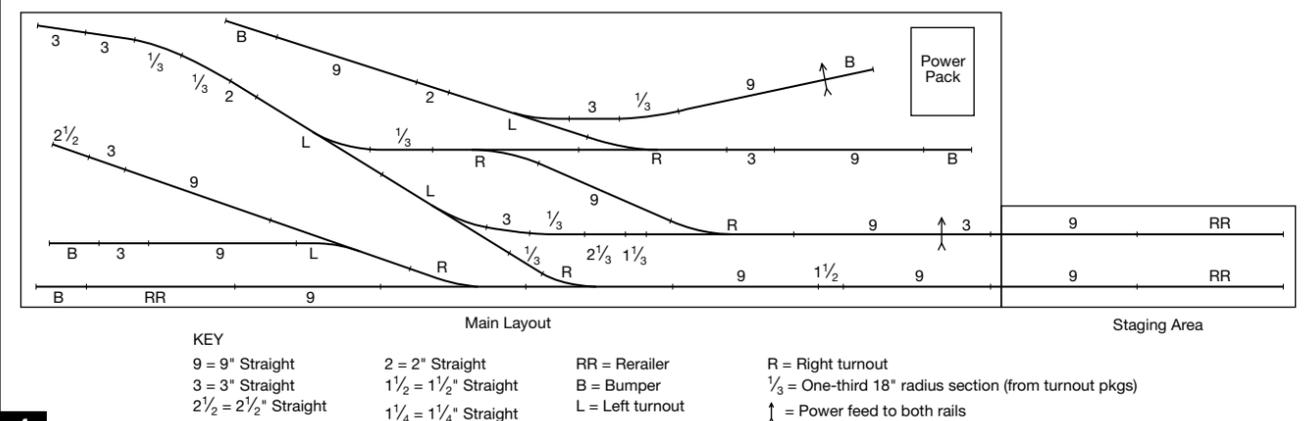
The Norwest Terminal

Building an HO scale cabinet-top switching layout

My daughter and son operate the Norwest Terminal, a small layout that can fit—temporarily or permanently—atop a bookcase or cabinet.

I've designed this HO scale layout, **1**, representing a port city's industrial area with operators in mind. The switching type of plan offers many possibilities in terms of sorting and spotting cars. A passing siding separates the layout into two areas: one with a small yard and engine facilities and the other containing industries to be serviced. The track plan is a modified version of plan 6 from the Kalmbach book *101 Track Plans for Model Railroaders*.

Track and wiring diagram



4

The plan also includes an optional separate staging area to allow trains to exchange rolling stock to or from the layout. You can think of it as a car ferry, and if you want, you could even model it to resemble one. The idea is to add operational possibilities that are more interesting than using your hand to rotate rolling stock directly on or off the layout. You could take this concept one step further and have receiving tracks set up at some remote destina-

tion (such as the other end of the car ferry route). Most of the techniques used in this chapter are slightly more advanced than those in Chapter 1. The base is an open frame instead of plywood. Structures are more than unmodified kits, and a backdrop adds realism. I also lettered the locomotive, water tank, and container crane for the railroad.

This layout's size makes it conducive for storage in a closet. When upright it

will fit below the standard hanger rod height, **2**. Here's another idea: most closets have one shelf above the hanger rod. If the closet is large enough, add a higher shelf and put that higher space to use. If you prefer, make the backdrop or the structures removable to fit where you want, **3**.

Frame construction

The frame material for this layout is no. 2 pine 1 x 2 boards. These are



20

The entire family gathers around the coffee-table layout. The table blends in nicely with the other furniture in the room.

Bill of materials

Lumber

- Edge-glued board (two if optional shelf is desired), 18" x 48"
- 1 x 6, 6' poplar, 2
- 1 x 4, 6' poplar, 2
- 1 x 3, 6' poplar, 2
- 1 x 2, 8' poplar, 2
- 1 x 2, 3' poplar

Hardware

- * 1 1/4" finishing nails
- * 1 1/4" drywall screws (preferably coarse)
- Magnetic catches, 2

- 1/4" x 3" flathead bolts, washers, and wing nuts (if using drawer with Ntrak layout in Chapter 3), 2

Miscellaneous

- Water-based wood primer
- Water-based semi-gloss black paint
- * Wood glue
- * Sandpaper
- Glass top, 21" x 52"
- Glass-mounting pads, 6
- * quantity as needed or desired

rough spots lightly with 220 grit or finer sandpaper. Try not to reveal any bare wood. Once you remove the sanding residue, apply the final paint color, 17. Two or three coats may be necessary for coverage. Multiple thin coats are better than a single thick one to prevent the paint from running or dripping. You may of course choose

to a color other than black, or you can apply stain and varnish as shown in Chapter 5.

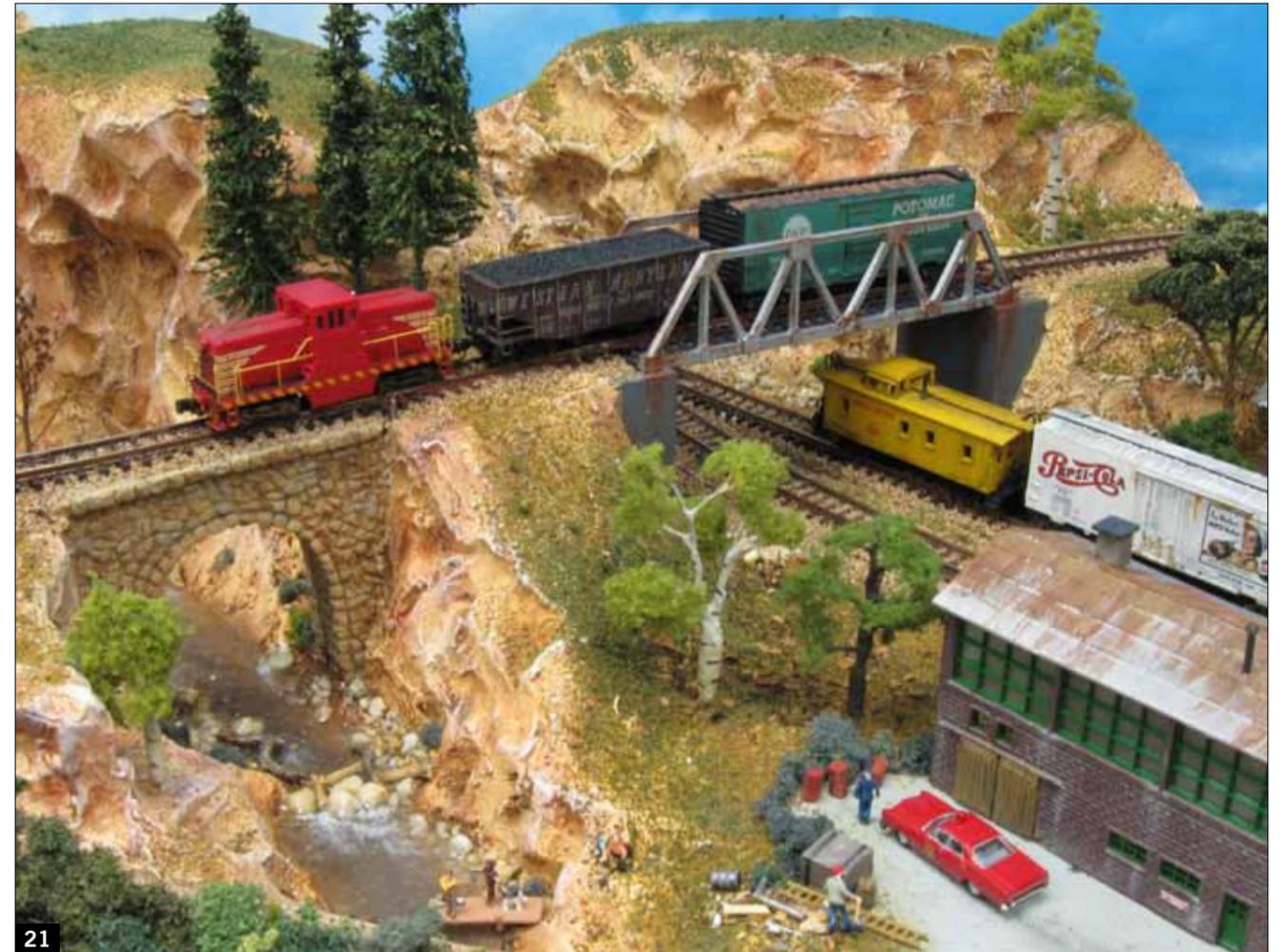
After everything is thoroughly dry and you are satisfied with the finish, place mounting pads for the glass on the top of the wood table surfaces in the corners above the legs, 18, and the middle of each long side. The glass I used

is 3/8" thick with plain, polished edges. A local glass supplier (check online or in the Yellow Pages) will be able to cut a piece of glass to any size you need. You can have your glass supplier provide fancier edges—for the right price, of course. Place the glass on the table and stand back to admire your work.

Now the table is ready for use. Slide the layout in, snap the wire connector in place from below, and then replace the removable side, 19. Use caution with the power cord. Since it must be run to a wall outlet, locate it to minimize tripping, but do not run it under anything which could create a fire hazard. It's usually best to leave it unplugged except when running the layout, 20, 21.

Variations

- Instead of building a table, you can purchase a table to house a layout, 22.
- Use this coffee table concept for any layout by adjusting the box dimension to fit the layout you'd like. Many N scale track plans have been published for a 2' x 4' space. HO switching



21

The kids fishing can feel the rumble of the trains. Looks like the local fire inspector has arrived to check out the business on the right.

layouts such as the one in Chapter 2 are similar in size.

- Build a non-removable layout into the coffee table. If you do, change dimensions of the removable side D to be the same as side C. Remember, you'll then need to lift off the top to access the trains, and I'd then recommend a lighter acrylic top such as the one shown in Chapter 5 instead of heavy glass.

- Employ the same concept for a dining table by enlarging both the box dimensions and the leg lengths.

- Add a second drawer for storage.
- Use a table to display trains only, without a drawer.

- Adjust the height of the table by changing the height of the legs and associated trim pieces. Standard height is 16" to 18". A common rule-of-thumb is the same height (or 1" to 2" lower) than the adjacent seating.



22

Many commercially available tables have a shadow-box area that could house a layout.