



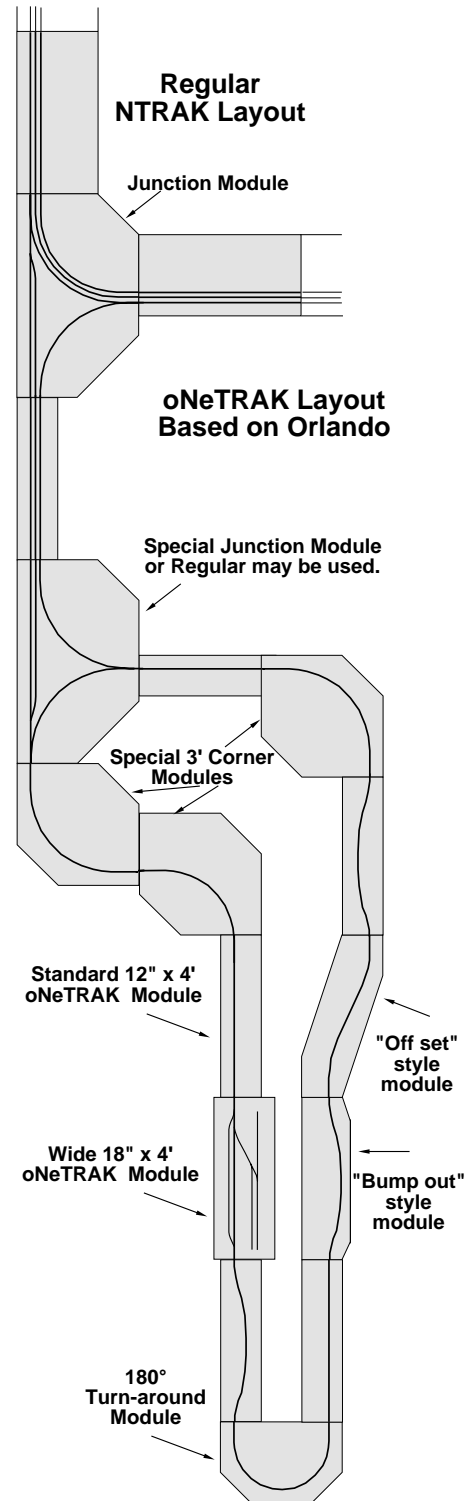
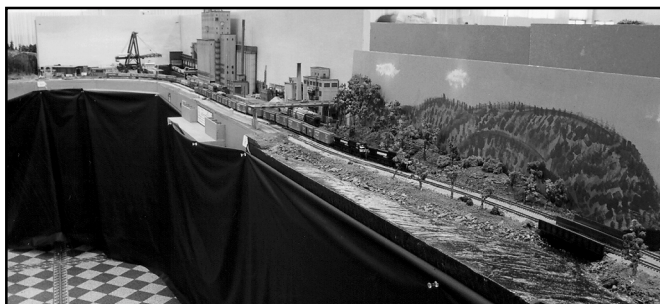
## Single Track Modules for NTRAK Layouts

Bernie Kempinski and the Northern Virginia NTRAK Club have come up with a scheme for adding a loop of single track line to an NTRAK layout, without interfering with our normal heavy traffic, three main line display running. They call this new idea "oNeTRAK". Bernie proposed the idea at the 1997 club Christmas party. The photos seen here were taken at the June 1998 Orlando N Convention.

The key to the oNeTRAK plan is the "Junction" module, that the club introduced for their big layout at Alexandria, Virginia in 1996. As shown in the drawing, a Junction module is substituted for a corner module in the main NTRAK layout. A two track section then goes to another junction type module and a series of single track units form a loop. This would be an area of switching operations. An occasional express train could be routed from the main layout and through the oNeTRAK loop. Operators would have to clear the line when this happened.

The basic oNeTRAK unit is 12" wide and 4' long and has a single track that is 4" to 6" in from the front. The units are easier to build and easier to transport. They can have passing sidings, additional trackage, can be wider, and the fronts don't have to line up. They can have unusual shapes, as long as track interfaces can match a grid system. A 3' x 4' unit is used for the 180° end. (Two 2' x 3' units used together would be easier to transport). While 2' corners were used originally, 3' corners are now suggested. The drawing uses 3' corners, but is similar to the actual layout at Orlando.

A oNeTRAK loop is an ideal place to show off the use of DCC equipped locomotives. It gives the club members, who enjoy switching operation, a place to "do their thing" while the main NTRAK layout is running. The units are easy to transport and can be used in a home shelf type layout between meets.





While regular Junction modules can be used, for this layout a modified Junction module is used as a corner for the oNeTRAK loop layout. The two tracks on the left are tied to a second Junction module that is the corner of the regular NTRAK Layout.

Additional photos are in the July/August 1998 NTRAK Newsletter and in the September/October 1998 N-Scale Magazine.

## oNeTRAK SPECIFICATIONS SHEET

### DEFINITION:

oNeTRAK is an NTRAK compatible single-track branch line that augments NTRAK layouts.

### GOALS:

1. Light weight, simple to build modules, especially for beginners or those with limited transport capability.
2. Easy home layout integration
3. Extend the Red Line Route at shows
4. Provide a branch line for local way-freight switching operations.
5. Alternative to three track modules without a separate layout. Connected layouts encourage team building and enhance fun!

### GUIDELINES:

Most of the guidelines are based on NTRAK standards.

1. **HEIGHT OF TRACK** Nominal 40 inches, plus or minus for grades.
2. **FRAME SIZES** Frame lengths in multiples of one foot. Twelve inches are the minimum width. This width may be increased up to one foot, front or back for a total maximum width of three feet.
3. **MODULE INTERFACE** Same as NTRAK with one clamp and the standard 4.91 " Atlas connector track section. The frame on the module end can be 1 x3 or 1 x4 lumber or plywood equivalent

4. **TRACKS** Code 80 track is standard. Code 55 is acceptable with code 80 transitions at module interface, so that the Atlas 4.91" connecting tracks may be used. One track is required, additional through tracks are permitted.

5. **MINIMUM RADIUS** is 18 inches with appropriate easements. To prevent binding the minimum length of tangent between all reverse curves must be 7 inches.

6. **LOCATION OF TRACK** On straight modules the location of the main has no impact on the loop of modules and is not important, but generally the track is set back 4 or 6 inches from the nominal front so that the fascias may be reasonably aligned. Bump outs on the modules are permitted, same as NTRAK. Double or triple track should have 1.5 inch center spacing at the module interface.

7. **CORNERS** Standard corners can be 30 by 30 inches, 3 by 3 or 4 by 4 feet, etc. On a standard corner the track should be set back 6 inches from the nominal front edge. This makes layout design with inside corners easier. On a 30 by 30 inch corner there is ample room for the 18 inch radius curve and easements.

8. **CLOSING LOOP LAYOUTS** Due to the wide variety of frame sizes and locations of tracks, some gaps may develop in a loop layout. Most large loops should be flexible enough to close a gap by "scrunching" the modules together. In some cases a temporary bridge may be necessary. This can be made by using a piece of foam, some flex track and a bar clamp to close the gap.

9. **JUNCTIONS** The smallest recommended junction is 3 by 4 feet.

10. **GRADES** 1.5 percent maximum across a dedicated set of modules. Grades on other modules can be created with shims under legs of modules. Grades suggest addition of a helper district and helper engine facilities.

11. **END TURNS** are modules that include an 180 degree curve in the track. They should be a minimum of 3 by 4 feet to allow the 18 inch minimum radius and easements. (Two 2' x 3' units would be easier to transport). The distance between the ends of tracks on an end turn must be three feet or more in even foot increments.

12. **TURNOUT SIZES** All turnout should be number 6 or larger on the mains, passing sidings and interchange tracks. Number 6 turnouts are also encouraged in yards for better operation. Any Atlas, Peco or Micro Engineering code 80 or code 55 turnouts are acceptable.

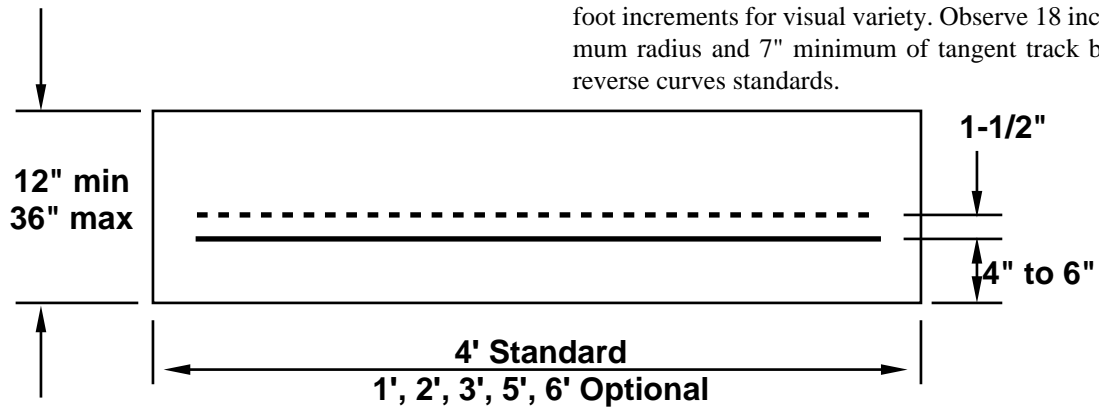
13. **ELECTRICAL** The main line has a red plug fastened the same way as NTRAK. The white and 110 volt requirements are the same as NTRAK. There are no special DCC related wiring requirements. NTRAK standards for wire gauge suffice.

14. **SCENERY** Any realistic scenery is permitted. Round down hills on the ends of modules so the view from an adjacent flat module looks like scenery. Colors for the fascia and skirts should blend with the scenery (generally shades of green or brown). Do not use diorama dividers.

15. **SKYLINE** Skyboards or vertical scenery flats are optional.

16. **PASSING SIDINGS** To enhance operations most layouts should include several passing sidings. Clubs should try to include one or more standard passing sidings in a layout. A standard passing siding is a set of two 1 by 4 feet modules with turnouts at each end of the pair and double track connecting the turnouts. The resulting passing siding is about seven feet long. Double or triple track modules can be used to extend these sidings

17. **OFFSET MODULES** provide track offsets in one foot increments for visual variety. Observe 18 inch minimum radius and 7" minimum of tangent track between reverse curves standards.



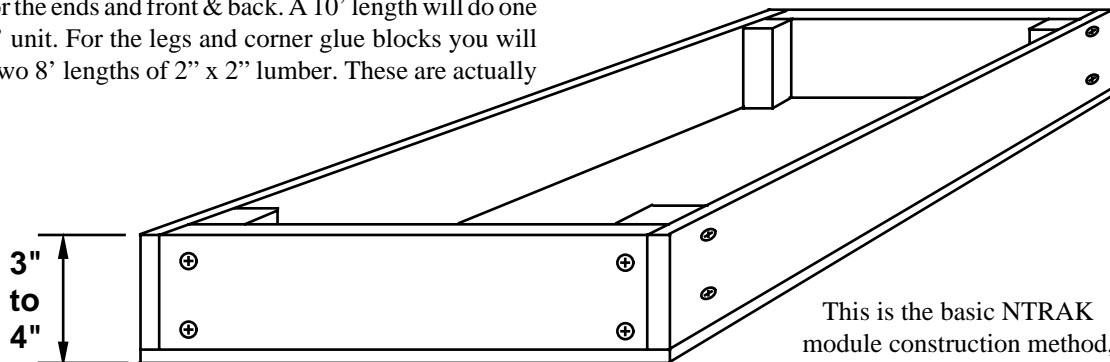
### Construction Suggestions

If you don't have ready access to wood working power tools, stock lumber can be used for the framework of your oNeTRAK modules. With the use of a table saw, a lighter weight unit can be made.

### Stock Lumber Method

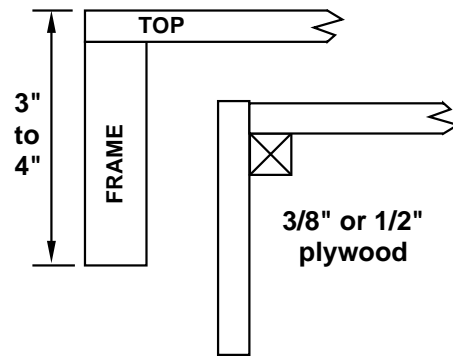
If you use stock lumber sizes, you will need 1" x 4" or 1" x 3" for the ends and front & back. A 10' length will do one 1' x 4' unit. For the legs and corner glue blocks you will need two 8' lengths of 2" x 2" lumber. These are actually

1-1/2" square, but start out as rough sawn 2" square pieces at the lumber mill. In the same manner, the 1" x 4" wood is 3/4" x 3-1/2". For the top, 3/8" plywood is a good choice, but you could use 1/2" or 1/4" if you have it on hand. If you have the home center cut the 1x4 to lengths for you, have two pieces cut just 48" long and the two end pieces would be 10-1/2" long since they fit between the 3/4" thick front and back frame pieces.



Use sheet rock screws and glue to hold the corner blocks in place. If you fasten the blocks to the end pieces first, the assembly will go easily. I use a "C" clamp to hold the block just so, then put the screws in pre drilled holes and tighten them down. The screws in the front and back pieces should be located so that they don't run into the first set of screws.

The top should also be glued. It can be held in place with small nails while the glue sets up. Be sure the frame corners are square before putting the top on. The legs are bolted to the corner blocks. See the NTRAK Manual or Module 'How-to' Book for ideas for leg systems.



### Lighter Weight Ideas

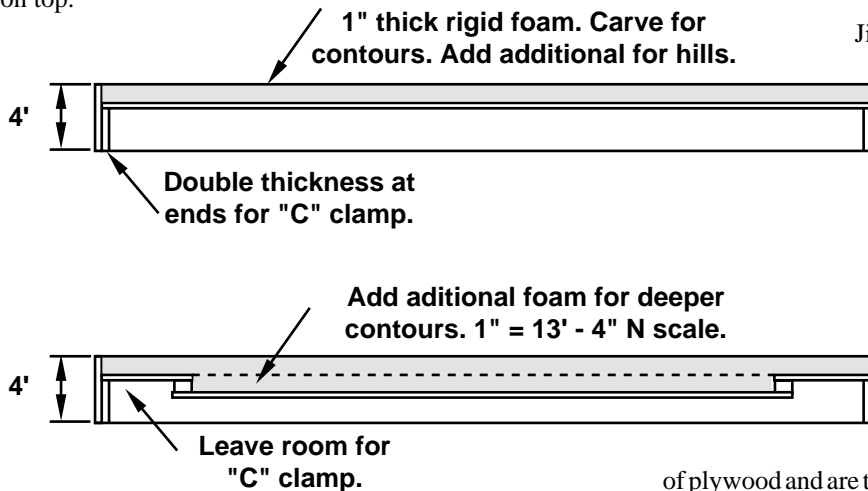
With a table saw, frame pieces can be cut from plywood and the leg material can be made smaller than 1-1/2" square. The units will still be strong enough for their use and much lighter to carry. In the method above, the top is simply placed on top of the frame. This lets the raw edge of the plywood be in full view, even if drapes are used on the units.

By using plywood for the frame, there is less chance of warping or twisting. 3/8" plywood works well if it has good straight cuts. These are easily done with a table saw. If you use a "Skil Saw" type power saw, you will need to use a straight guide for your cuts.

As shown in the drawing, extending the front frame piece even with the top, the raw edge is hidden from the front and covered with scenery on the top. If the top edge of the front is left about 1/16" long and then sanded smooth after the glue sets, this will leave a nice front corner. The ends and back are narrower and the plywood simply goes on top.

Glue strips about 1/2" square are used along the front and back as well as at the ends. The corner glue blocks can be made from 1-1/4" material, as can the legs. I use 2x10 boards that are used for the fascia on houses. (The board that the gutter fastens to.) In the west, white fir is available with one side smooth and one rough. This gives the builder a choice in texture for the fascia. I rip these boards into 1-1/4" or even 1-1/8" square pieces. The fir has some knots, but you can usually get long enough pieces for the legs, and then use scraps for the 1/2" square glue strips. I use braces on the legs and they can be made 1-1/14" x 1/2" by recutting the leg material.

The finished units should be painted to reduce chances of warping and damage from the water based scenery and ballasting. Latex paint works well for this, but avoid using it on the ends of modules. When two latex painted surfaces are clamped together, they often stick to each other. Oil base finishes are better on the end surfaces.



Jim FitzGerald

For further information on oNeTRAK and answers to specific concerns, please contact:

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For modules that feature hills and valleys, an alternate construction method will make your project easier. You make the module base 3" high with a full plywood top. Then add 1" of rigid foam to the top of it. The ends are made

of plywood and are the full 4" height. This protects the ends of the foam top from damage. If you want hills higher than the track, add more foam where needed. Using the 1" for all of the top gives a smooth and flat surface for the track. By making the scenery at each end of your module more or less level, it will blend better with the next module.