

PMT Modules

Where all tracks leads to friends



HO Gauge module standards

Modules should be built according to the following set standards:

- 1800mm long by 600mm wide
- 1800mm long by 700mm wide
- 900mm long by 600mm wide
- 900mm long by 700mm wide
- 2X12mm wing-nuts have to be used to secure adjoining modules together
- minimum width of the sides of the modules has to be 95mm
- maximum thickness of the wood is 12mm, preferably 12mm pine ply
- there have to be pockets on all 4 corners for the legs to be fitted as needed
- 2 cross braces have to be added to modules 1800mm long and 1 to modules 900mm long
- the legs are made from 25m square steel tubing with an adjustable nut in the bottom to adjust the height as needed
- corner modules have to be 30o, 60o or 90o units with an outside track radius of 1500mm
- there is no height limit to the modules (multiple layers are encouraged)
- modules have to fit through a 700mm by 2000mm door frame. The Club has it's own jig with which we drill the holes in the ends of the modules and this way we are able to ensure that the holes are more or less standard. We only use G-clamps as an absolute final resort. The holes are normally drilled at one of the meetings when the new module is ready for insertion into the layout. The scenery itself has to meet with certain standards, namely:
- double track mainline, the nearest known as the A-line and the other as the B-line. The A-line traffic runs right-to-left and the B-line left-to-right
- the rail must end 56mm from each end of the module to allow for bridge tracks 110mm long to be inserted between the adjoining modules. Since January 2005, Fleishmann adjustable track sections are used where possible.
- Peco code 100 nickel-silver rail has to be used on all main line tracks with no turnouts smaller than Peco mediums leading from the mainline. Any code 100 nickel-silver flex (preferred) or track sections can be used on side lines.
- 12mm wood has to be fastened to the top of the module wherever track is laid. Pine ply is preferred above pressed wood
- the track has to be laid on a 3mm cork sub-roadbed
- a bus wire system must be used, wired into terminal blocks at both ends.
- if the module requires power for automation or lighting, a transformer has to be mounted under the module, with a fuse of sufficient size and a standard 3 point mains plug on a reasonable length of cable must be supplied. Power may NEVER be tapped from tracks for any of these functions
- the wiring has to conform the Club standards using purple, orange, white and green wires with purple the first rail and green the fourth rail from the front of the module
- everything off the mainline is left to the modeller's own initiative, subservient to the approval of the Club's Technical Committee
- clearances have to be high and wide enough to allow for the largest commercially made models in HO scale to traverse unrestricted
- over head wires are only used in exceptional cases and then only on the A-line
- the module sides must be painted Plascon Velvaglo Deep Forest Green





The painting of the modules was a natural progression towards finishing off the scenery. The club purchased the paint for this purpose and the result does a lot for the presentation of the modules.

N Gauge module Standards

After investigation of the number of standards around, the Internationally accepted N-Trak standard will be used, with some minor modifications.

Module Size and construction

- Modules are built in length multiples of 610mm. Possibilities here are 610mm, 1220mm, 1830mm and 2440mm. Keep in mind that portability is an issue, so the suggested size would be modules of 1220mm long. They can easily fit in the back of an average size car
- Modules are built 610mm deep. Provision is made for an additional 152mm both to the front and the rear of the module, if the modeller needs the extra space for scenery or a bigger track plan. Modules should, however, not be smaller than 610mm deep.
- Modules are built to accept a 25mm x 25mm steel leg in each corner. These legs should be long enough to put the top of the rail at 1100mm. Also, the legs should be height adjustable, and allow a minimum of 25mm adjustment. A nut can welded to one end of each leg, and a bolt can be used to set height, or commercial height adjustable feet can be used (these can be found at most hardware shops) (NOTE: This is changed from the normal N-TRAK standard to conform to PMT module standards)
- Corner modules should be either 1220mm or 915mm in length and depth. The 2 opposing corners for inside can be cut off at a 45degree angle to reduce size and weight. For corner modules, 6 legs must be supplied.
- Modules should be built using at least 9mm pine plywood, but 12mm plywood is preferred. Use 6mm to 9mm soft board as a roadbed.
- Modules of 1220mm and longer, should have 2 cross braces to reinforce the module.
- Each module should have a facia board of 6mm or 9mm plywood, and it should be 95mm high.
- Each module could have a sky board of at least 305mm high from the top of the rails. Although it is not required, it is strongly recommended that modellers add a sky board. Sky boards should be made from 4mm plywood or equivalent (example hard board) and painted a neutral light blue.

For a graphical explanation, see figure below.



Module tracks

- Each module should contain 3 tracks. The full N-TRAK standard supports a host of other lines, but for simplicity, we will NOT be including all these. From the front of the module, they are:
 - 1. Mainline 1 or Red line
 - 2. Mainline 2 or Yellow line
 - 3. Branch Line or Blue line
- Tracks are placed on 38mm track centres.
- Tracks should be places as follows:
 - 1. Red 508mm from the rear of the module (excluding the optional 152mm extra!)
 - 2. Yellow 470mm from the rear of the module (excluding the optional 152mm extra!)
 - 3. Blue 432mm from the rear of the module (excluding the optional 152mm extra!)
- Crossover tracks are allowed to be used (and we strongly encourage people to do so) to allow movement of trains between the 3 different lines. These cross over tracks should be electrically isolated.
- Track should stop 50mm from the end of each module. Atlas / Peco extendable track sections should be used to join modules.
- The last 50mm before the track end of a module, should be straight.
- Track should not use a bend of less than 482mm (19") radius.
- Preferred track is code 80 Peco flex track.
- Preferred points/switches are Peco Medium on the main lines (red, yellow and blue). Small radius is allowed on side line, but using medium radius turnouts should seriously be considered.

Electrical

- All 3 lines should be electrically isolated. No common ground is allowed.
- At least one set of feeder wires per module is required for each of the 3 tracks.
- All modules should have feeder wires to allow hook up to the adjoining module using the following guide lines:
 - 1. Looking at the module from the front (outside), the extra length feeder wires should be on the right hand side of the module. These feeder wires should have enough length to reach the connectors on the next module
 - 2. On the left hand side, each module should have 6 spring type connectors fitted to allow feeder wires from the module next to yours to connect to. These connectors are similar to those used to connect your hi-fi speakers at the back of the hi-fi.
 - 3. Each module is required to have its own supply for additional electronics/lighting/animation. No AC signal is carried between modules. No power should be tapped from the main lines.
 - 4. If electrical point motors are used, the module should supply its own power. In other words, do not tap power off the main lines.
 - 5. PMT will be using only DC throttles on all 3 lines.

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