



# Black Diamonds Module Recommendations 2024

## 1: General

**These standards apply to the outside ends of a set of modules or both ends of stand alone boards.**

Module board construction is free.

Rail Height from floor to be 1016mm / 40".

Leg construction is free, group legs can be used, if to be bolted these will need a 8.5mm hole 52mm (2") below the underside of the baseboard surface material.

Alternatively, leg pockets can be constructed where needed.

Legs to have adjusters fitted to base to allow about  $\frac{3}{4}$ " / 19mm adjustment.

Board ends recommended to be 100mm / 4" deep below track level to allow clamping if necessary and must be perpendicular to the track surface.

Jigs for bolt hole drilling will be made available.

Alignment dowels may be used in sets of modules but ends to join other modules must be plain and drilled to the appropriate standard.

All tracks are to be at 90° to the board edge both in horizontal and vertical planes for a minimum of 100mm and to be flush with the face of the end plate, preferably on 3mm base to create matching ballast shoulders.

Control system at meets will be Digitrax DCC, mainly radio throttles, radio will be supplied by command station and group receiver/transmitter. UP5 and UP7 throttle ports may be fitted to suit individual needs, loconet cabling will be installed at meets independent of main wiring.

Turnout operation is free, hand throws may be used in yards, main line should be powered.

Power for switch machines may be available depending on requirements.

Large sets of modules should have independent turnout power, Accessory decoders may be fitted, particularly on main line turnouts to possibly allow despatcher controlled operation.

Signals are free, power may be available depending on requirements. Accessory decoders are desirable to facilitate the possibility of eventual despatcher operation.

Adaptor boards to fit between the various module types are held by some members and by the group.

Adaptor boards to other standards may be available at meets or made to suit subject to prior notice of requirements.

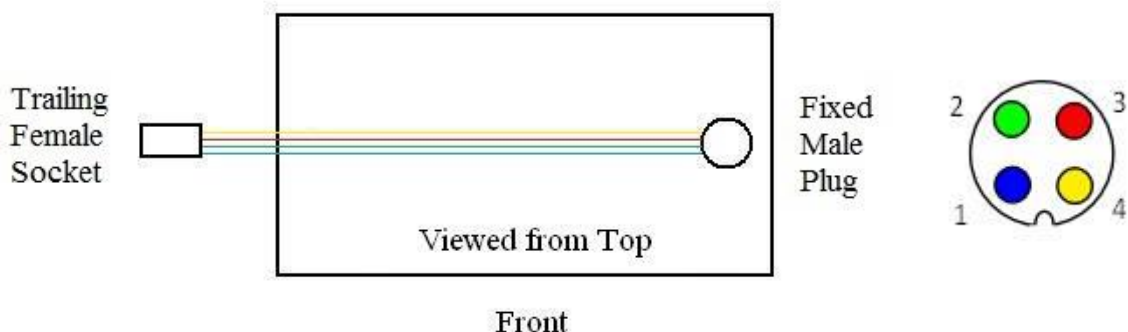
At module joining ends ballast is to be Woodland Scenics Light Grey B74 and ground cover to be Woodlands Scenics Burnt Grass T44. After a couple of inches, other colours may be blended in as preferred.

Board faces are to be painted brown, recommended Nutmeg Spice or similar. May be varnished, if so silk or matt to be used.

**If in doubt, advice is available at meets or by email.**



## 2: Electrical Connections



These apply to the ends of modules or module sets that are to connect to other modules. Connections within a set of modules may be any type.

Colour coding is not compulsory but if used, colours should be as above, from front, blue green red yellow.

All plugs and sockets are to be wired pin 1 – outer rail progressing inwards.

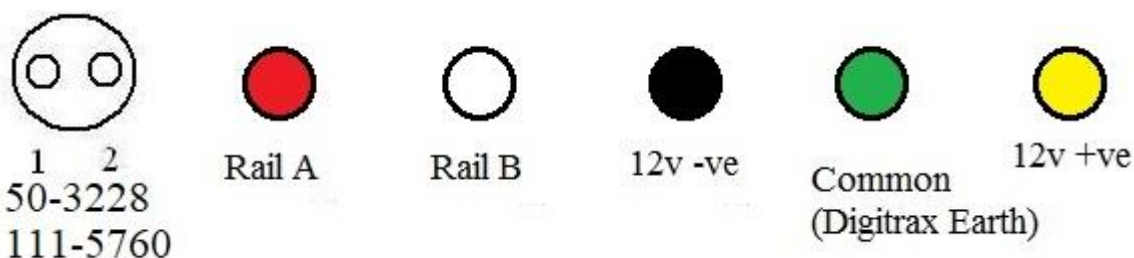
On modules that are reversible it is recommended that both connectors are installed at both ends.

Manufactured by Cliff Electronics (Cliffcon), available from:

Trailing sockets:	Single track:	Rapid Electronics:	50-3214
		RS:	111-5754
	Double track:	Rapid Electronics:	50-3216
		RS	111-5756
Chassis Plugs	Single track:	Rapid Electronics:	50-3228
		RS	111-5760
	Double track:	Rapid Electronics:	50-3230
		RS	111-5762

If a set of modules requires track power an additional 50-3228 or 111-5760 can be mounted under the boards, away from the right-hand end, for each track area. Wiring to be: Pin 1 - Rail A, Pin 2 - Rail B

If a Digitrax PM42 or equivalent is incorporated then connections will be by 4mm Banana plugs and sockets (various makes available from RS or Rapid Electronics). Sockets to be fitted under boards following the colour codes below:



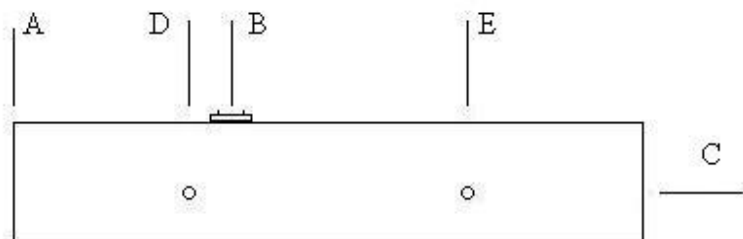


### 3: Track Types and Board End Dimensions

Track types recommended are Peco, Atlas and Micro Engineering code 55.

Main line turnouts should be of the largest possible radius, particularly if the main route is using the diverging line.

#### A: Peco Code 55 Single Track



Boards recommended to be 380mm (15") wide.

Track centre (B) to be at 127mm (5") from front edge (A).

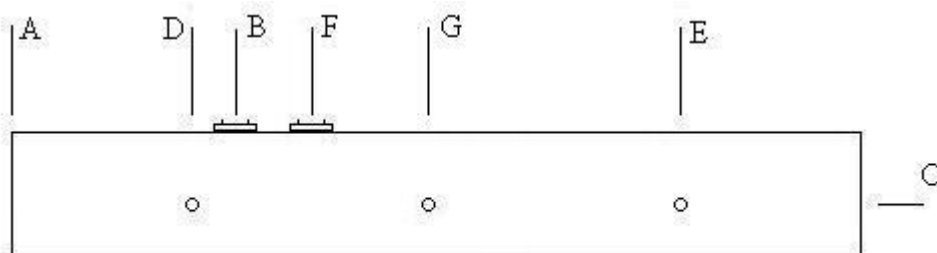
Track to be straight at 90° to board end for a minimum of 100mm.

Last two ties at board ends to have rail fixings removed to allow use of rail joiners.

Bolt hole spacing to be at 100mm (D) and 280mm (E) from front edge and both holes to be at 65mm (C) down from rail top height.

Bolt holes to be drilled 8.5mm for 8mm bolts.

#### B: Peco Code 55 Double Track



Boards recommended to be 600mm wide.

Track centre (B) to be at 127mm (5") from front edge (A), second track to be 26.62mm from the outer track. This corresponds to the closer spacing on a Peco track spacing gauge.

Track to be straight at 90° to board end for a minimum of 100mm.

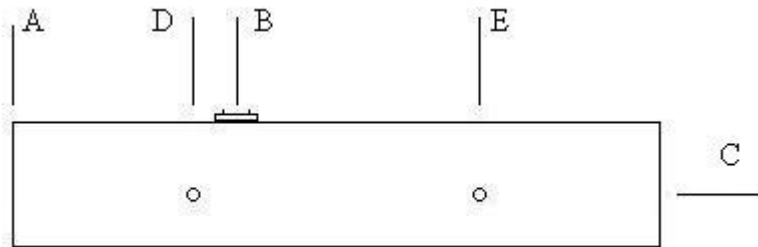
Last two ties at board ends to have rail fixings removed to allow use of rail joiners.

Bolt hole spacing to be at 100mm (D), 280mm (G) and 500mm (E) from front edge and all holes to be at 65mm (C) down from rail top height.

Bolt holes to be drilled 8.5mm for 8mm bolts.



### C: Atlas or Micro Engineering Code 55 Single Track



Boards recommended to be 380mm (15") wide.

Track centre (B) to be at 127mm (5") from front edge (A).

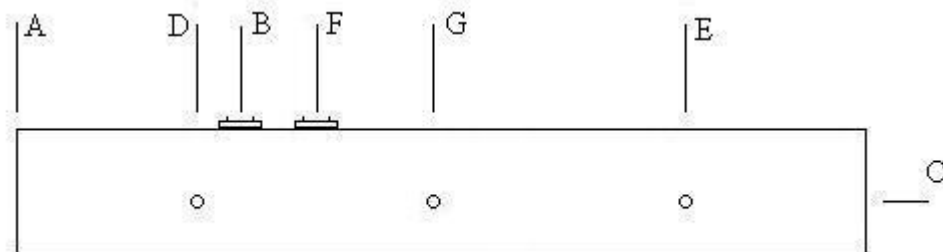
Track to be straight at 90° to board end for a minimum of 100mm.

Last two ties at board ends to have rail fixings removed to allow use of rail joiners.

Bolt hole spacing to be at 100mm (D) and 280mm (E) from front edge and both holes to be at 65mm (C) down from rail top height.

Bolt holes to be drilled 8.5mm for 8mm bolts.

### D: Atlas or Micro Engineering Code 55 Double Track



Boards recommended to be 600mm wide.

Track centre (B) to be at 127mm (5") from front edge (A), second track to be 1.25" from the outer track. Track to be straight at 90° to board end for a minimum of 100mm.

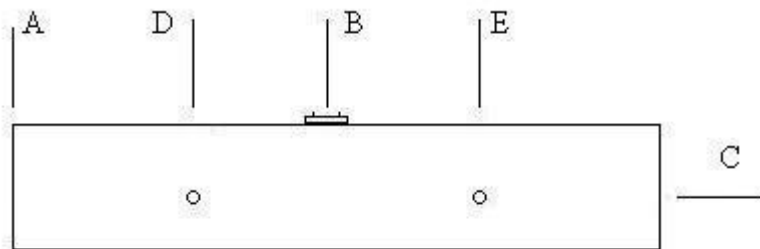
Last two ties at board ends to have rail fixings removed to allow use of rail joiners.

Bolt hole spacing to be at 100mm (D), 280mm (G) and 500mm (E) from front edge and all holes to be at 65mm (C) down from rail top height.

Bolt holes to be drilled 8.5mm for 8mm bolts.



## E: Reversible Option, Single Track Peco Atlas or Micro Engineering



Board ends are symmetrical to allow reversal when desired.

Boards recommended to be 380mm (15") wide.

Track centre (B) to be central at 190mm from front edge (A).

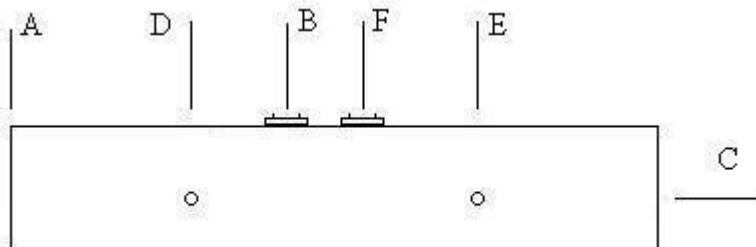
Track to be straight at 90° to board end for a minimum of 100mm.

Last two ties at board ends to have rail fixings removed to allow use of rail joiners.

Bolt hole spacing to be at 90mm each side of centre line (D & E) and both holes to be at 65mm (C) down from rail top height

Bolt holes to be drilled 8.5mm for 8mm bolts.

## F: Reversible Option, Double Track, Peco Atlas or Micro Engineering



Board ends are symmetrical to allow reversal when desired.

Boards recommended to be 380mm (15") wide, but may be wider at the rear.

Atlas or Micro Engineering track centres to be at 1.25", centre line of the 2 tracks (B & F) to be at 190mm from front edge (A), each track to be 15.88mm (5/8") from the centre line.

Peco track centres to be 26.62mm, centre line of the 2 tracks (B & F) to be at 190mm from front edge (A), each track to be 13.31mm from the centre line. This corresponds to the closer spacing on a Peco track spacing gauge.

Track to be straight at 90° to board end for a minimum of 100mm.

Last two ties at board ends to have rail fixings removed to allow use of rail joiners.

Bolt hole spacing to be at 90mm each side of centre line (D & E) and both holes to be at 65mm (C) down from rail top height

Bolt holes to be drilled 8.5mm for 8mm bolts.