



**Amherst Belt Lines  
Modular Railway System  
Amherst Railway Society  
Amherst, MA**



**MODULAR RAILROAD SPECIFICATIONS**

**FAQ**

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## Overview

This FAQ is a supporting document to the modular specifications to provide some reasoning/understanding as to why the associated specification is defined the way it is. All specifications do not have a direct correlating FAQ, but the two documents are aligned in similar fashion.

- **Why is the length in increments of 24”?**
  - Many of our layouts are loops, and the consistent increments ensures that we can assemble a loop and it will
- **Why is the maximum width of a module-set 36”?**
  - Modules that exceed a width greater than 36” can have an impact on the layout design process impairing what modules can be near as well as impacting member flow throughout the layout while operating trains.
- **Why is the rail-head height 40”?**
  - By setting our height at 40” we feel this is the best compromise for adults in order to have the layout at a level in which children can still see and view the trains. Children are the future of this hobby!
- **What is the significance of having an adjustable leg?**
  - Depending on the show venue there can be significant variations in the floor. Having the adjustment allows us to compensate for that and still have a relatively level layout that does not impact the running of trains.
- **What is a “Module End-Plate”?**
  - This is the matting end of a module. Each module set has two which will be connected to other module sets.
- **If my module set consists of two modules, how many “end-plates”, do I have two or four?**
  - Per the specification, any one module set only has two end-plates regardless of how many modules are connected together to form the module set. The module connections within a module set may vary from the specification as the owner deems appropriate with the understanding that a solid connection between the modules is formed.
- **Why do you specify the dimensions of the end-plate?**
  - The height of the end-plate is important when considering that different module sets need to be connected together via the end-plates. If everyone made their end-plates any dimension they wanted, then it would be difficult to connect the modules sets at a show. By far the most common and preferred end-plate is 5”.
- **Could you elaborate on the “clamping area”?**

- The location and size of the “clamping area” is very important. As the specification indicates, there is room for variation on how wide the clamping area is, but the ideal scenario is that there is a clamping area across the majority of the module end-plate. This makes the connection between two module sets that much more effective and efficient.
- **How important is the track spacing and location at the end-plates?**
  - Tracks being at 5” and 7” on-center from the front edge is the basis of our module connections. This provides us a standard connection that we know will mate with any other module set. Additionally this allows for a consistent physical front edge which presents cosmetically well to the viewing public.
- **Why do you still use Code 100 track?**
  - The use of Code 100 track on the main lines is very important from multiple perspectives.
    - It provides more reliable in operation
    - It is still the most cost effective
    - It is resilient to damage
- **How important is having a 3” section of straight and level track from the end-plate?**
  - **VERY!!!** This provides a total of 6” at the joining of two module sets. This minimizes the potential of variation of track alignment between two adjoining module sets. This eases the layout assembly process at the show as well as improving the operation of trains across the adjoining sets.
- **Why do you have the rails end 1” prior to the end of the module?**
  - This allows us to use a rail section of 2” (1” on each module set) to join the tracks. This provides enough length to accommodate the variances between tracks.
- **What is the importance of the points of any mainline turnout not being within 4” of the end of the module set?**
  - This is another reinforcement of providing a smooth transition of the track connections between modules. Smooth connections between modules is of the utmost importance for operating trains.
- **Does the minimum radius apply to all track?**
  - It applies to only the two mainline tracks. Secondary track can have any radius you wish.
- **Why do you require all rails to be gapped after each turnout?**
  - Over time, the club has experienced a number of issues with regard to the electrical integrity and performance of various turnouts. By defining the standard of gapping all four rails, it creates a consistent pattern that makes troubleshooting issues easier, reduces the potential for issues and has little impact on the module construction.
- **Why do you have some many specifications on feeder wires?**

- Electrical conductivity is one of the most important factors of a model railroad, and even more critical when you are dealing with a modular layout.
- **Metal rail-joiners work fine in my experience, what are your concerns?**
  - Generally metal rail-joiners do work well on their first time use. In a modular environment they are used and reused and over time, while they still hold rails well, they can loosen and have conductivity issues. Additionally, the rails they connect to may have scenery or paint which impair the rail-joiner from making good contact. Bottom line, they have proven unreliable over time.
- **Why is there some many specifications for the Through Wiring Bus?**
  - As stated before, electrical conductivity is one of the most important factors of a model railroad, and even more critical when you are dealing with a modular layout. The wire gauge and connectors have all been specifically selected to support the electrical current needs of DCC and also offering minimal loss over long runs.
- **Why do I have to wire secondary tracks so the electrical between them and the mainlines can be removed?**
  - This is essential for troubleshooting purposes. If needed it allows the coordinators to segregate the mainlines from all other non-essential track electrically.
- **Why are there concerns with Local Control Panels?**
  - In the days of DC operation, local control panels were important to allow the control of multiple locomotives and the adoption of DCC has eliminated this need. Having a local control panel adds an additional level of complexity to the wiring, as well as increasing the potential of an electrical failure, if nothing else, just by increasing the sheer number of components.
- **What do you mean by “all required DCC equipment will be provided”?**
  - The club provides the command station, boosters, and cabs. *IF* a layout will use tethered cabs (not very common over the recent past) the club will provide the UTPs and Cab Bus connections.
- **Why do I have to register all of my DCC equipment?**
  - Any and all DCC equipment can pose a potential threat if it is in conflict with other DCC equipment on the layout. This can range from a duplicate locomotive address, duplicate consist address, cab address or even a duplicate accessory decoder. Because of this we require that you register you equipment so we can track what may be in use to ensure there are no issues as a result of conflicts.
- **What about my own cabs?**
  - The club utilizes the NCE PowerHouse Pro DCC System and generally only accommodates the use of cabs via the NCE Radio. If you have a personally owned compatible cab and would like to use it, it must be registered with the club and can only be utilized with permission (which is generally not an issue).

- **What about my DCC locomotives?**
  - With DCC there is the potential of 9999 DCC addresses. Amazingly enough, during our very first trial run of DCC in 1999, we had a DCC address conflict. Since that time we have maintained a “DCC Address Management” list. All locomotives MUST be registered with the club. Assuming there are no conflicts with other registered units, you may use them at will. If a conflict is identified, you will need to verify with the conflicting owner(s) before you may operate said locomotives.
- **Why do I need a variance for some DCC equipment?**
  - Items that are attached to the module like Accessory Decoders and breakers can have impacts to the remainder of the layout and additionally may be hard to reprogram or disconnect if there is an issue. Therefore we require the variance process to ensure we are aware of all of the pertinent details.
- **How do I connect my DCC equipment to the layout?**
  - The use of a connector or spades on a terminal are preferred as they can be disconnected if appropriate.
- **What are the limitations surrounding scenery?**
  - As very simply stated in the specification, the scenery cannot impair the mainlines or the connection of other module sets. Beyond that the only limitation is your creativity. We do not model a specific era or geographic location.
- **Why do you have a variance process?**
  - To provide our members the utmost flexibility. By having a variance process we are willing to allow some deviation from some of the specifications but ensuring that the spirit of the specifications are still met and the module set owner is aware of any limitations their choices may impose.