



North Raleigh Model Railroad Club

Application Note

NTRAK Show Digital Master's Check List

Introduction

The North Raleigh Model Railroad Club has several members qualified to be the Digital Master, the person responsible for all aspects of the DCC installation and operation in a Club layout.

The Digital Master is the person most involved in making DCC operations successful. He/she reports to the Show Superintendent, and is responsible to ensure the availability and operability of all DCC equipment needed for a successful layout and show. The Digital Master may be assisted by an Assistant Digital Master and other staff as necessary.

This document provides details of the responsibilities of the Digital Master and his/her staff. It provides boxes to check off as tasks are completed and spaces to fill-in information as necessary.

Initial Tasks

These are tasks that should be started immediately after the Club commits to a show and the Show Superintendent is appointed, and completed at least a week prior to the show date. Place a check in the box when the task is complete, and any necessary additional information in the space to the right.

- Prepare a preliminary DCC design based on the initial view of the layout configuration _____
- Determine the availability of the necessary DCC equipment and wiring for the layout configuration _____
- Ensure spare units are available for the main DCC equipment components _____
- Determine the setup time available for installing and testing the DCC equipment _____
- Verify continuity and the proper crimping of RJ plugs on LocoNet cables _____

The Week of the Show

These are the tasks that must be completed in the week prior to the setup of the layout at the show.

- Verify availability of all needed DCC equipment _____
- Verify that all DCC equipment is operable and properly configured for the layout _____
- Ensure all DCS100/200 equipment is fitted with new CR2032 batteries _____
- Finalize the DCC design based on the final layout plan, indicating the location of all DCC equipment (Command Station, Boosters, Radio Towers, Insulated Joiners in tracks, 120VAC power requirements, etc. _____
- Update the final layout plan with the DCC design information _____

- Confirm availability of tables at venue for Command Complex and Program/Test Layout _____
- Confirm the necessary transport for the DCC equipment _____
- Confirm any additional staffing required is lined up for set-up and/or tear-down _____
- Prepare a detailed plan for the order of DCC set-up _____
- Ensure contingency plan in place if any other layout will utilize NCE DCC radio _____

At the Time of Set-up

This is essentially the period from the start of set-up until the layout is complete prior to the show opening to the public.

- Meet with the Digital Master of other layouts with Digitrax DCC to agree on assignment of LocoNet IDs _____
- Ensure tables are positioned correctly for the Command Complex and the Programming/Test Layout _____
- As modules are set up and clamped in place DCC equipment in approximate location required for the show _____
- Place signs on modules where insulated rail joiners are to be installed _____
- Clamp radio towers to skyboards in the planned location(s) _____
- Ensure 120VAC power is available at Command Station complex site _____
- Set up the Command Station and associated monitoring computer and verify operation _____
- Install any additional Universal Panels required for the layout _____
- Connect LocoNet cables from the Command Station to the adjacent modules _____
- Install LocoNet cables from module-to-module per the DCC design, and test as installation proceeds. This includes checking continuity with the LT1 tester and voltage drop with a DT4xx throttle, and resolution of any problems _____
- Install LocoNet cables to Boosters and radio receivers/transceivers _____
- Connect 120VAC to all DCC equipment requiring AC power _____
- Connect low-voltage power supplies (e.g. PS14) to equipment as needed _____
- Verify all DCC equipment is properly powered _____
- Verify all wiring (LocoNet and Track Bus) and insulated joiners on the layout is correct _____
- Ensure UR91 radio receivers are set to the agreed LocoNet ID _____
- Ensure UR92 radio transceivers are set to the agreed Duplex Group (Usually "NRMRC") _____
- Utilize DigiGroupSetup software to analyze the radio spectrum and set UR92 transceivers to the most idle channel (be sure all duplex throttles are disconnected from LocoNet and batteries removed while this analysis is in progress) _____

- Utilize both "R" and "D" throttles to verify operation of the radio system _____
- Turn on Track Power and ensure the Boosters are properly phased _____
- Operate test trains and verify overall operation of the DCC system _____
- Ensure a programming track/test layout and associated DCC control is available for operators: _____

During Layout Operations

This covers the time from the show opening to the public until the show closes to the public and tear-down begins.

- Monitor operation of the DCC system _____
- Respond to and rapidly resolve any problems encountered by operators _____
- Provide assistance and training to operators as required _____
- Ensure problems with control systems are promptly rectified: _____

During Layout Tear-Down

This is the time from the end of railroad operations until the layout is dismantled, packed, and loaded into transport for the trip home.

- Remove all LocoNet cables, equipment, etc. from the layout and assemble at the Command complex _____
- Carefully pack all LocoNet cables, protecting the RJ plugs from damage _____
- Carefully pack all DCC and auxiliary equipment for transport _____
- Ensure all DCC equipment is loaded for transport and returned to its normal storage location _____

After the Show

As with almost everything we do, the "job" is not complete until the paperwork is finished.

- Provide input to the Show Superintendent's Report re operation of the DCC system in the layout _____
- Document any issues with the show venue for consideration at future shows in the venue _____

The North Raleigh Model Railroad Club thanks you in advance for volunteering to be the Digital Master. With everyone sharing the burden of organizing layouts we can have better layouts and more fun with them.