

I. Introduction

Welcome to the world of DCC! The purpose of this guide is to give you a summary level, quick reference document for getting set up and running trains on the club's layout. This guide is geared to the following types of people:

- Someone who is brand new to DCC
- Someone who has never run trains on the club layout before, such as a new member or a visitor

For further information, contact any member of the DCC committee or see any member listed at the end of this manual.

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II. Getting started: Key things to know before you begin to run your train

The NVRRA runs a Digital Command Control (DCC) system. This is very different than a conventional DC system. Among other things, for a locomotive to run on DCC, it **MUST** have a DCC decoder installed and programmed into the club's DCC system. If you put a locomotive on the layout that is NOT DCC ready, IT WILL DAMAGE YOUR LOCOMOTIVE. DO NOT PLACE A NON-DCC LOCOMOTIVE ON THE CLUB LAYOUT. THE CLUB WILL NOT BE RESPONSIBLE FOR EQUIPMENT HANDLED IN THIS MANNER.

If you are unsure if your locomotive is DCC ready, please ask another member for assistance.

The club runs a DCC system made by the NCE Corporation. In order to run on the layout, you need an NCE brand hand held throttle and a DCC equipped locomotive(s). Locomotives can contain DCC decoders made by any manufacturer that sells decoders that comply with NMRA standards. Examples are: NCE, Digitrax, and Atlas. However, ANY hand held throttle to be used on the club's layout **MUST** be made by NCE Corp. Any other manufacturer's throttle will NOT run on this layout.

There are 2 options for running on the layout. You can: 1) Run your own equipment on the layout; or 2) Use club owned equipment.

A) If you want to run your own equipment (i.e. locomotive and/or hand held throttle) on the club layout

If you plan to frequently run trains at the club, you can get a permanent DCC address assigned to your locomotive(s). You must get 1 address for each decoder equipped locomotive that you have that you plan to run. Each locomotive **MUST** have a unique decoder address.

In order to get yourself a registered decoder/locomotive address, you must fill out a "DCC Decoder/Consist Requisition Form" that can be found in the meeting room. Fill out the form and submit it in the envelope on the wall in the meeting room. If you need help or have questions on the form, see any of the Senior DCC Programmers listed at the end of this section.

The convention is to use the ROAD # as the DCC decoder address. However, there are some exceptions to this guideline:

- If the address is already taken, you can request a unique number from the DCC chairman.
- 2) If the road number is #128 or lower.

In the latter case, the convention is to add a "9" in front of the number so that a locomotive road number of 112 becomes a decoder address of 9112.

INTRODUCTION TO RUNNING A DCC TRAIN ON THE NVRRA V2.0

Page 3 of 6

In addition to locomotives, EVERY hand held throttle MUST be registered in the system. Keep in mind, these throttles come from the manufacturer all with the same address. This must be changed. Fill out and submit the above mentioned “DCC Decoder/Consist Requisition Form” and on that form, indicate that you need a throttle to be registered.

In some cases, you may want to run a “consist”. Simply put, a consist in DCC terms is an address in the system used for running multiple locomotives that pull the same train. Every member has been assigned a unique consist number for running trains using multiple locomotives. In addition, there are temporary consist numbers for visitors.

You can check the master listing of DCC addresses, consists, and throttles to see if your forms have been approved. If approved, the address(es), consist(s), and throttle number(s) will be assigned on this list. If you have questions on the status of your request, contact the DCC chairman listed at the end of this document.

B) If you want to run club owned equipment

Throttles and club owned locomotives are already registered, so there is no set up involved. Throttles are located in the cabinet in the meeting room. Club owned locomotives can be found usually parked in the Nashua engine facility.

NOT ALL LOCO'S ARE CLUB EQUIPMENT. SOME CAN BE MEMBER'S PRIVATE EQUIPMENT. BEFORE RUNNING ANY LOCOMOTIVE, PLEASE CHECK WITH A SENIOR MEMBER IF YOU ARE NOT SURE WHETHER A LOCOMOTIVE BELONGS TO THE CLUB.

Club equipment tends to be in club colors (green and yellow).

C) If you are a temporary visitor to the club and would like to run a train on the layout

The club has temporary addresses in the system for infrequent users of the layout and non-member/visitors. In order to run on the layout, please bring all equipment to a senior programmer for inspection and set up with a temporary decoder address. Note: this inspection is to insure your equipment is compatible with the club's equipment and for your protection. Once set up, you will be all set to run.

For further details, see the NCE DCC System Reference Guide located in the meeting room.

For further information on DCC and how it works, a great beginner's reference is *“DCC Made Easy, 48 Pages, 100 Color Photos”*. You can get this at any hobby or book store. FYI, an example of the book can be found at <http://www.walthers.com/exec/productinfo/400-12242>

III. Running a train on the layout

BEFORE RUNNING ANY LOCOMOTIVES ON THE LAYOUT, PLEASE INSURE THE WHEELS ARE CLEAN AND FREE OF DIRT. THIS WILL IMPACT HOW YOUR LOCOMOTIVE RUNS. THERE IS WHEEL CLEANING SOLUTION AND PAPER TOWELS STORED NEAR THE NASHUA YARD.

Also, you may want to check your equipment out with the Standards Chairman to be sure your wheels are properly gauged and your couplers meet standards. The Standards Chairman is listed at the end of this document.

Setting up and running a single engine train:

Once you have your locomotive & throttle programmed, it is time to run! Put locomotive on the track. From here, you need to assign your loco to your throttle.

- Hit the “SELECT LOCO” button on your throttle
- Enter your LOCO address (NOTE: Loco address MUST be a 4 digit number).
- Hit enter. You should now all set to run. See attached PROCAB Manual for further details.

Setting up and running a Consist (multi-locomotive train):

You must set up your consist on your throttle before you can run it on the layout. For all the details on setting up consists, refer to page 28 of the Power Pro System Reference Manual. The following is a summary.

To set up a consist:

- Push SETUP in lower left corner of Procab throttle
- Push ENTER to set up an advanced consist
- Enter your assigned consist address and hit ENTER
- Enter your lead loco number and hit ENTER

Enter the direction of travel for this loco. Note by hitting the DIRECTION button you can toggle between forward and reverse. Select F and hit ENTER.

To add additional locomotives, follow prompts on the throttle. You will need to assign directions to these locos as above.

To add or drop a loco from a consist press the ADD or DELETE buttons at the bottom of the throttle. Enter your loco address and hit ENTER. Repeat process until all locos are added/dropped.

INTRODUCTION TO RUNNING A DCC TRAIN ON THE NVRRA V2.0

Page 5 of 6

Note: for additional information, see the chapter titled “CONSISTS – OLD AND ADVANCED CONSISTS EXPLAINED in the NCE System Reference Manual in the layout room.

How to shut down operations when you are finished running your train(s):

- You will need to clear all locos from the consist and clear the consist before you leave the club. Failure to do so will cause problems the next time you try to run these locos on home or other layouts.
- Make sure throttle is set to zero before doing any of the following to your locos. If speed is set to other than zero (like 1 or 2?), commands may not register unless loco is set to zero.
- \Clear all but the lead locomotives from the consist at this point. Press DELETE button, then enter loco address for all locos in your consist. Then hit ENTER.
- Press CLEAR to clear the consist. Enter consist number, then press ENTER.

Things to keep in mind as you run on the layout:

- Never lift a loco off the layout that is in a consist before clearing it from the consist
- Never use hand held throttle made by anyone other than NCE
- Always abide by the operating rules of the club
- Consists for short term running should not exceed 4 head end locomotives & 1 helper on rear.
- Always check the “White Board” just outside the layout room for any last minute notes about the layout or operating limits.

INTRODUCTION TO RUNNING A DCC TRAIN ON THE NVRRA V2.0

Trouble shooting common problems:

PROBLEM	POSSIBLE CAUSES/SOLUTION(S)
Train will not run	<ul style="list-style-type: none">• Decoder not set up in computer. See a senior programmer for assistance.• Loco(s) not properly programmed into hand held throttle. Clear throttle and reprogram.• Switch set against you. Check nearby switches and reset them as needed.
Not sure of consist number or what's set up on throttle	<ul style="list-style-type: none">• Club throttles are numbered on back of procab throttle.• Check consist listing on sheets in meeting room.
Someone else's train moves when you throttle up your train	<ul style="list-style-type: none">• There is a duplicate address assigned. Notify a senior programmer.
Runaway train	<ul style="list-style-type: none">• Hit RED punch down switch button (located on side of layout) to stop power to that section of the layout. Notify senior programmer.
All trains in a block STOP and the NCE power booster's LED's are flashing.	<ul style="list-style-type: none">• One of the locos has shorted and has caused a power booster to shut down. Remove the short and the booster should come back on.

CONTACTS:

Layout/ DCC Chairman: Scott Lukas Lukas@earthlink.net Cell: 1 978 621 9603