

Programming Mobile Decoders using JMRI Decoder Pro

Presented by

Scott Henry

DCC *by Design*

Agenda

- Getting Started
- Introduction to JMRI Software
- Basic Programming
- Comprehensive Programming
- Demonstrations
- Hands on Time

Getting Started

- Hardware

- Programming Track

- Command Station

- Throttle

- Computer Interface

- Computer

} Can be one unit

- Software

- JMRI Suite

- JRE program

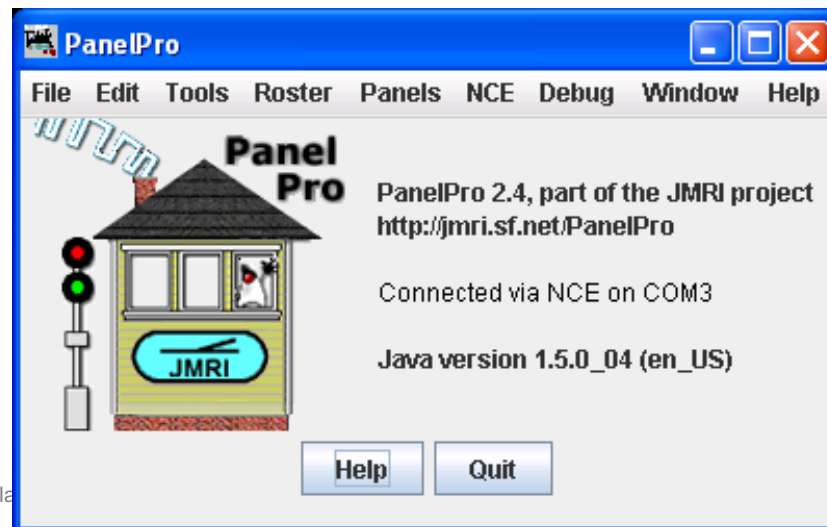
} Provided on CD-ROM

Hardware

- Programming Track
 - Isolated
 - Switchable
 - Examples on CD-ROM
- Command Station
 - Readback capability
- Computer Interface
 - System Specific
 - Details on CD-ROM

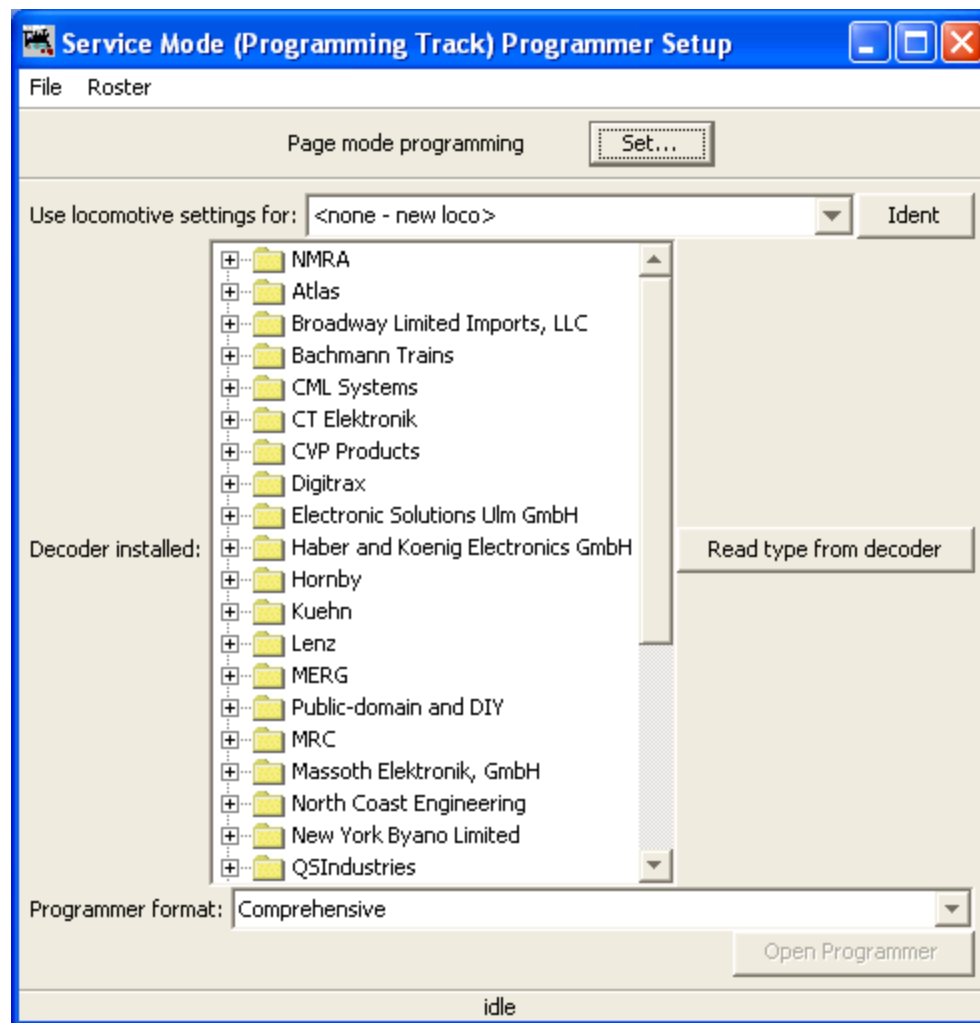
Introduction to JMRI

- JMRI – Java Model Railroad Interface
- Open Source Software = FREE!!
- Web site: <http://jmri.sourceforge.net>
- Suite of Tools
 - Major Tools: Decoder Pro & Panel Pro



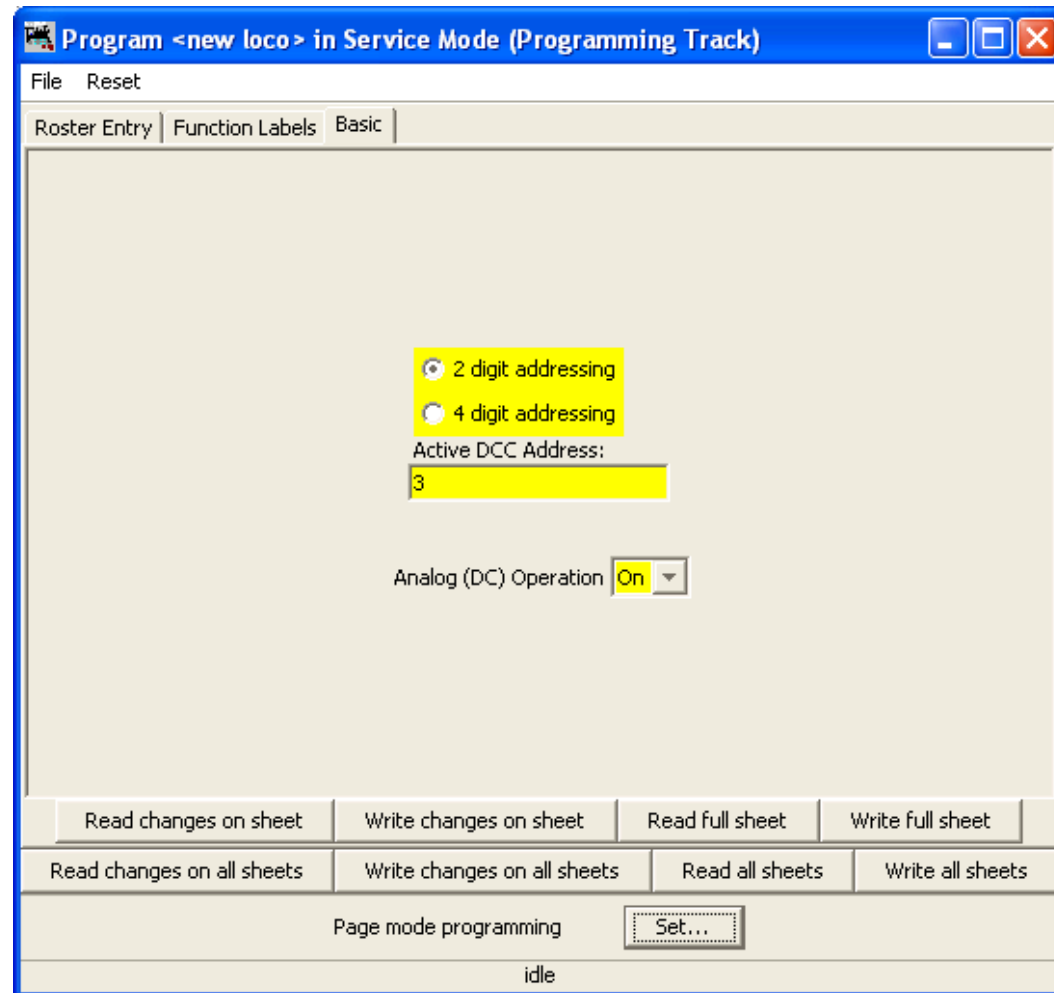
Basic Programming

- New Locomotive
 - Read Type from Decoder
 - Browse to find Decoder
- Existing Locomotive
 - From Roster



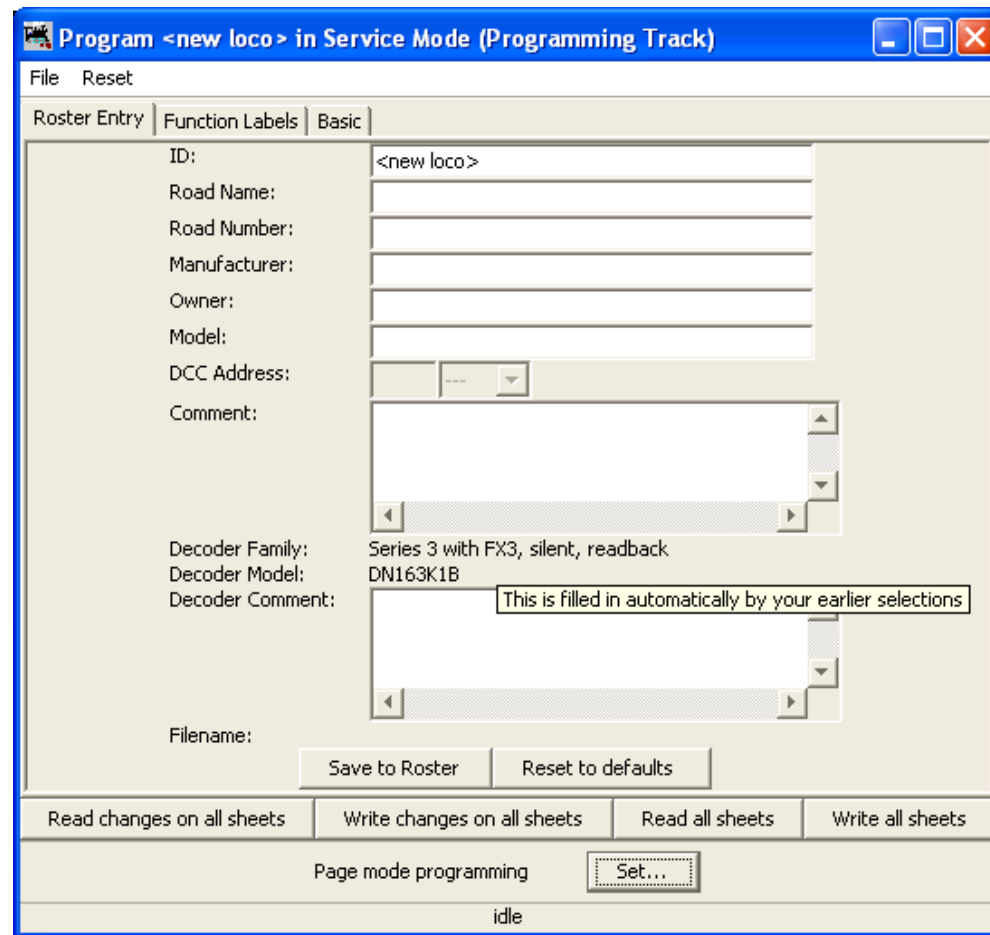
Basic Programming

- Screen
- Basic Tab
 - Address
 - 2 Digit
 - 4 Digit
 - Analog Operation
- Button Basics
 - Read
 - Write



Basic Mode Programming

- Roster Entry Tab
 - Locomotive Info
 - Decoder Info
 - Owner Info

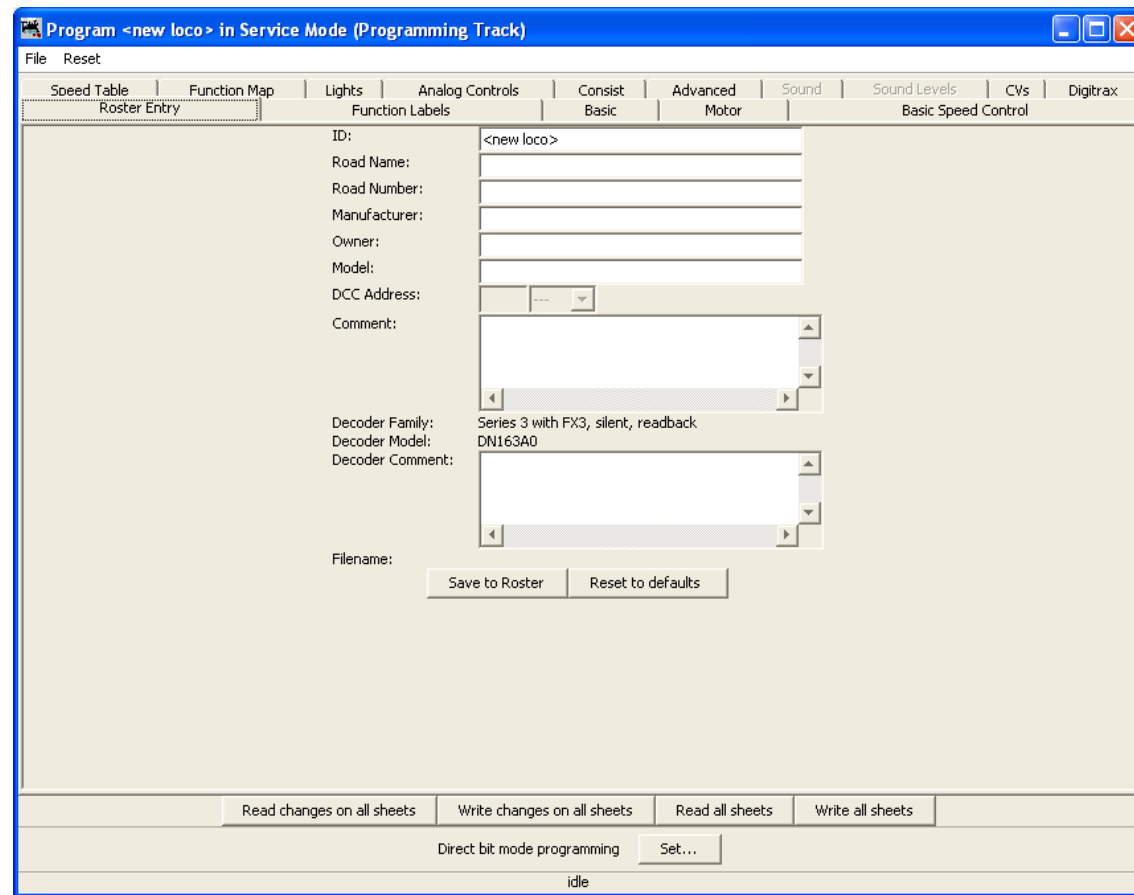


Basic Mode Demo

- Demo #1
 - Program New Locomotive
 - Change the address
 - Turn Off DC mode
- Demo #2
 - Retrieve an Existing Locomotive in Roster
 - Copy Settings to another Locomotive

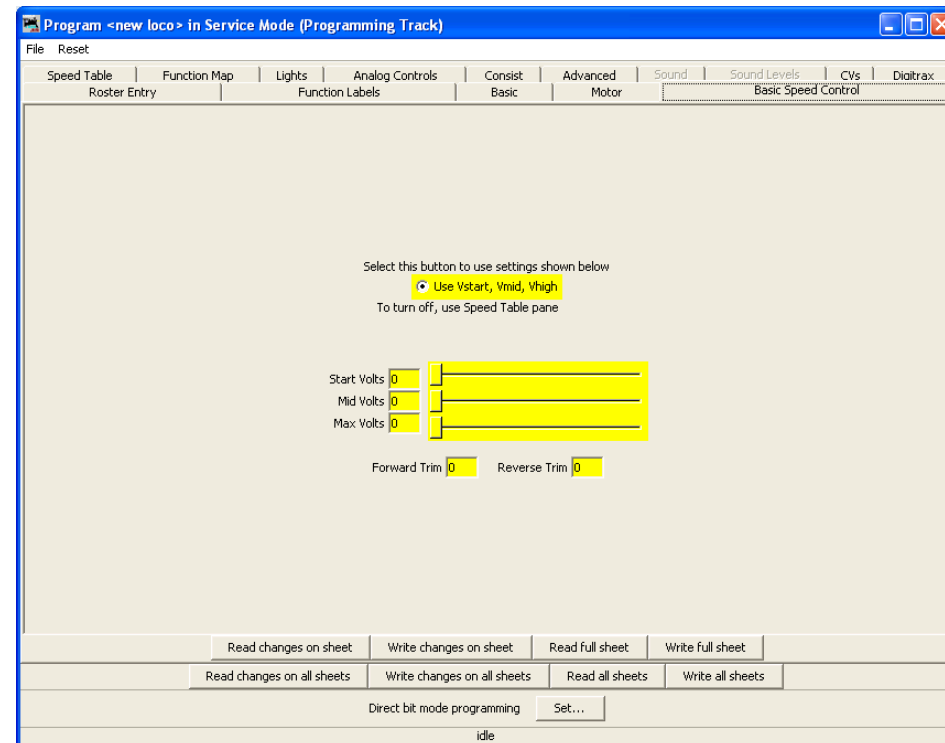
Comprehensive Mode

- Full Feature Mode
- Roster Tab
- Basic Tab
- Basic Speed Control
- Speed Table Tab
- Function Map Tab
- Lights Tab
- Others



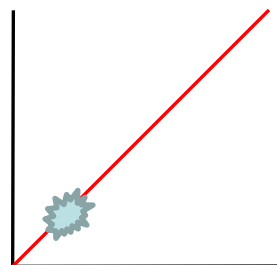
Basic Speed Control

- Creates nonlinear speed curve
 - Approximates 2 lines or
 - Approximates X^2 function
- Set using
 - Starting Volts
 - Mid Volts
 - Max Volts
- Trim
 - Adjust to make forward and reverse speed similar

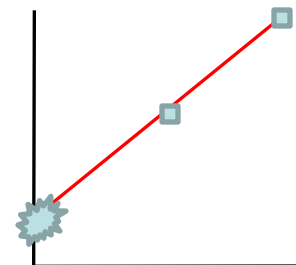


Speed Setting Examples

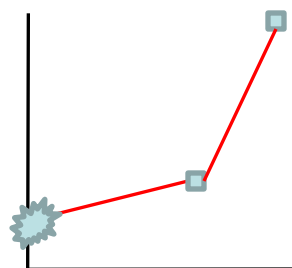
- Default
 - Locomotives from factory
- Switchers
 - Small increases, low top speed
- Passenger
 - Fast increases, high top speed
- Road Freight
 - Examples at right
 - Can simulate momentum using throttle



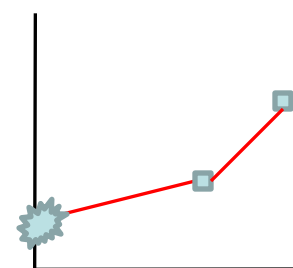
Default, starts at $F > 1$



Modified, starts at $F = 1$



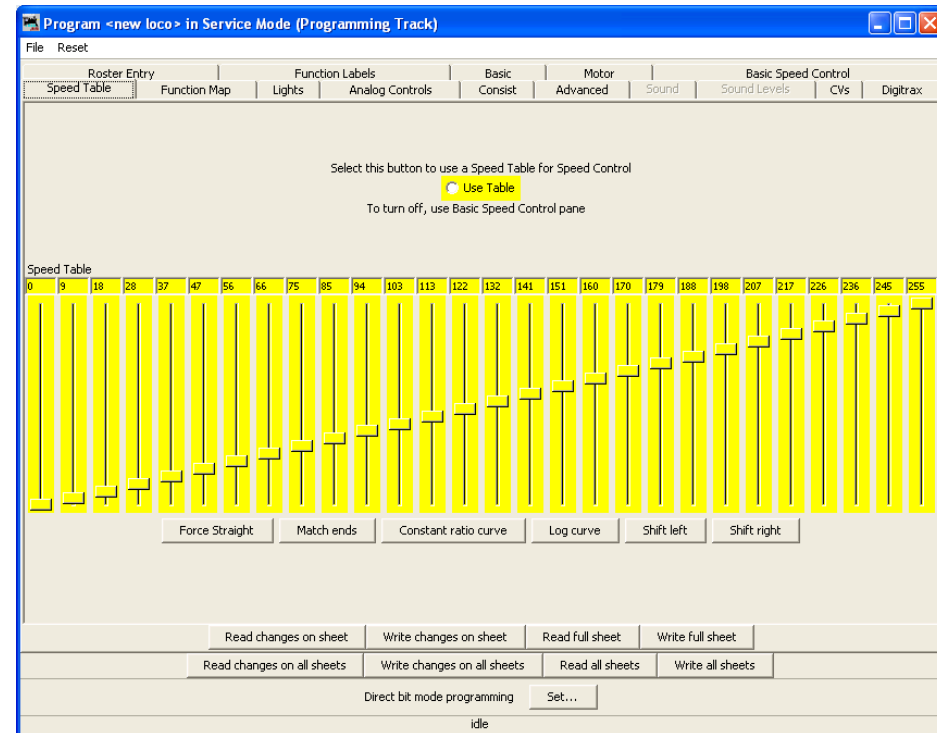
Small increases
at first



Small increases
at first, Ltd. Top Speed

Speed Table

- Enter custom table
- Uses
 - Speed matching different locomotives
 - Setting Locomotive to Scale MPH
 - Can require some math to adjust



28 Steps on table

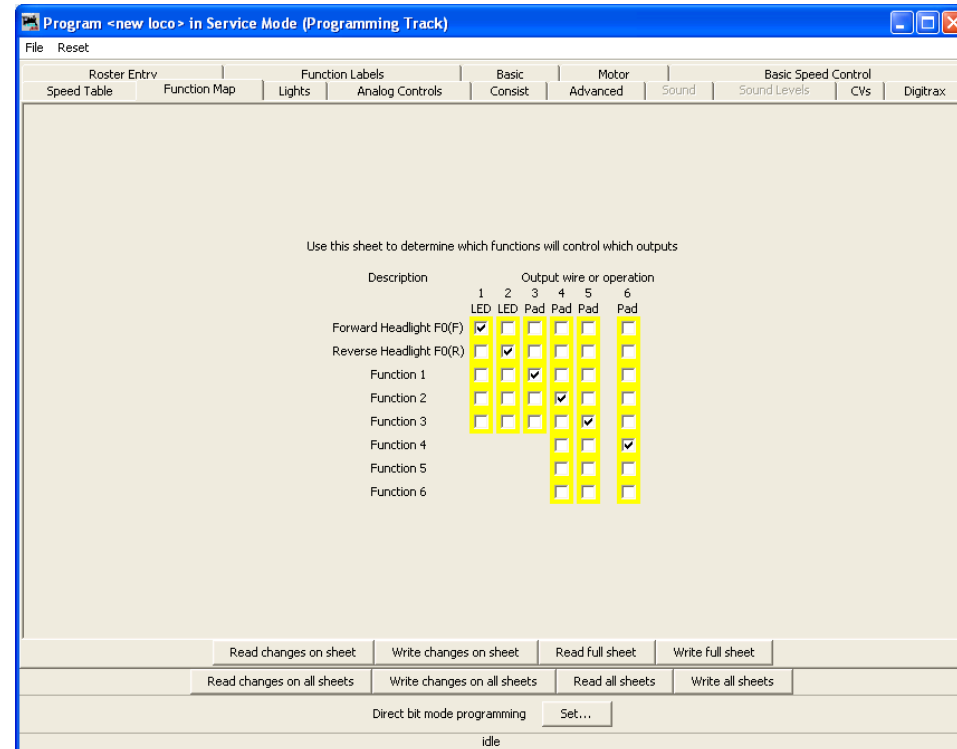
128 steps in many decoder

100 steps in most throttles.

1 step in table \approx 4 throttle & \approx 5 decoder

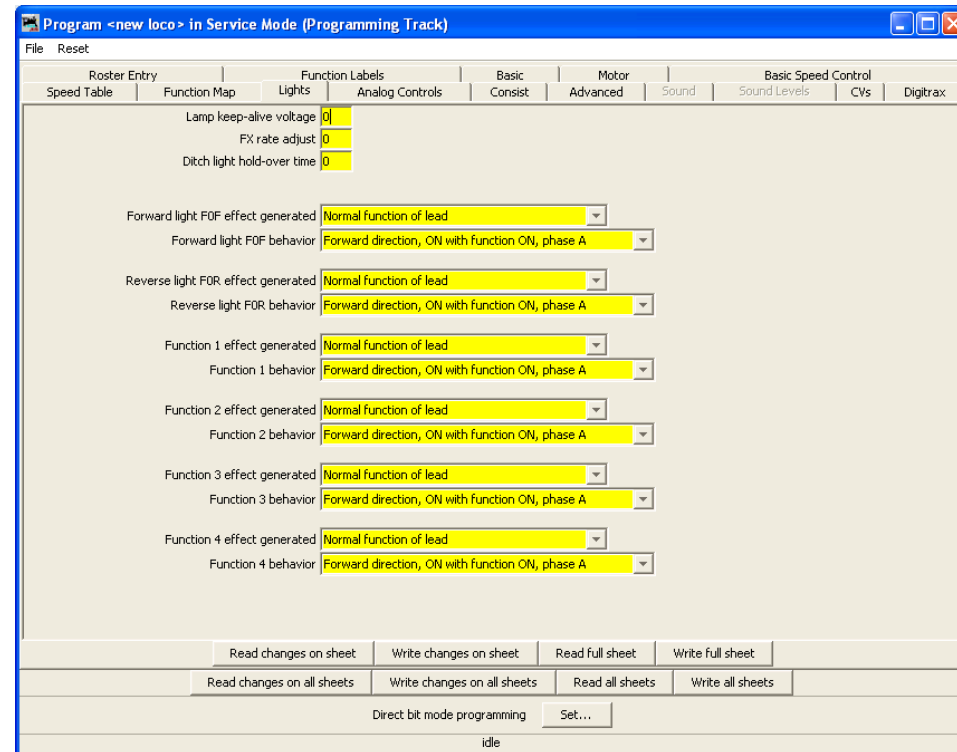
Function Map Table

- Multiple wiring based on same Function
 - Ditch lights
 - Mars lights
- Mistake Correction Feature
 - Not Recommended
 - 5 Years later rule



Lights Table

- “Cool Effects” Settings
 - Directional Settings
 - Dimming Settings
 - Ditch Lights
 - MARS Lights
 - Gyralites



Other Tabs

The screenshot shows a software window titled "Program <new loco> in Service Mode (Programming Track)". The window has a menu bar with "File" and "Reset". Below the menu bar is a tabbed interface with the following tabs: "Speed Table", "Function Map", "Lights", "Analog Controls", "Consist", "Advanced", "Sound", "Sound Levels", "CVs", and "Digitrax". The "Function Map" tab is active, and within it, the "Function Labels" sub-tab is selected. The main area contains the following fields and controls:

- ID: <new loco>
- Road Name: [empty text box]
- Road Number: [empty text box]
- Manufacturer: [empty text box]
- Owner: [empty text box]
- Model: [empty text box]
- DCC Address: [empty text box] with a dropdown arrow
- Comment: [empty text area]
- Decoder Family: Series 3 with FX3, silent, readback
- Decoder Model: DN163K1B
- Decoder Comment: [empty text area]
- Filename: [empty text box]

At the bottom of the main area are two buttons: "Save to Roster" and "Reset to defaults".

At the bottom of the window, there are four buttons: "Read changes on all sheets", "Write changes on all sheets", "Read all sheets", and "Write all sheets". Below these is a status bar with "Direct bit mode programming" and a "Set..." button. The status bar also shows "idle".

Comprehensive Mode Demo

- Demo #1
 - Add Locomotive to Roster
 - Change the address
 - Set Basic Speed Control
 - Program New Locomotive
- Demo #2
 - Use Speed Table
 - Change Lighting Rules
 - Discuss Other Tabs

Questions

