

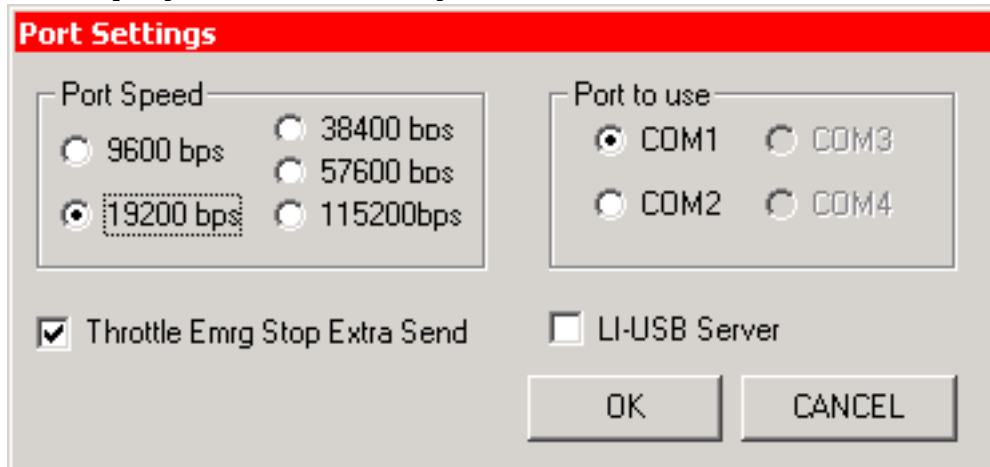
ZugDCC

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Support sites:

<http://www.kentsoftware.com>

- 1) Download ZugDCC from the download section and unzip the file using any un-Zip program.
- 2) Run SETUP.EXE to install the program, it's recommended you use the default settings. Do not install using another installer other than what is included in the zip file.
- 3) Run ZugDCC from the Start>Programs menus.
Note: Not all functions are available in the trail mode.
- 4) The first time you run ZugDCC you will be told there no settings for the Comm Port. Go to the CONFIG tab and click Set COM PORT to select the proper setting for your LI100F or LI101F or LI-USB. You will have to exit and re-start the program for the changes to take effect.



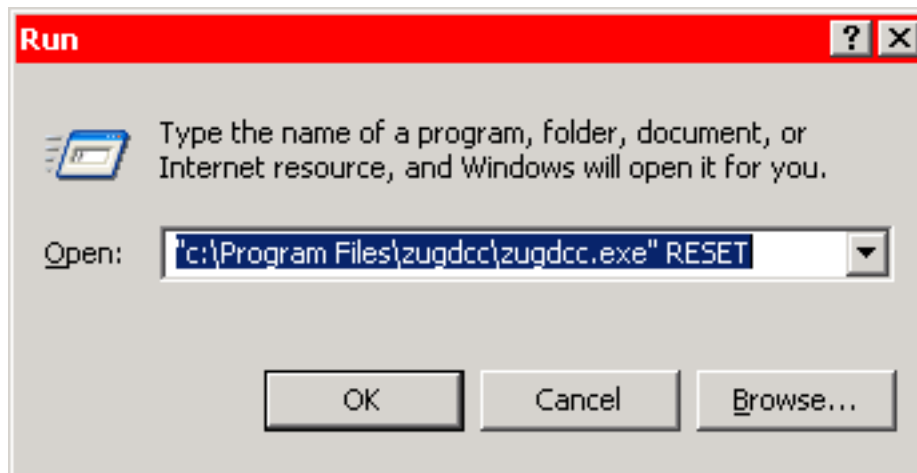
NOTE: That use must run the LI-USB SERVER program before starting ZugDCC.

If somehow the port setting are entered incorrectly, or they change on your PC and you start getting errors when trying to start ZugDCC, you can reset all port setting by running it once with RESET on the command line.

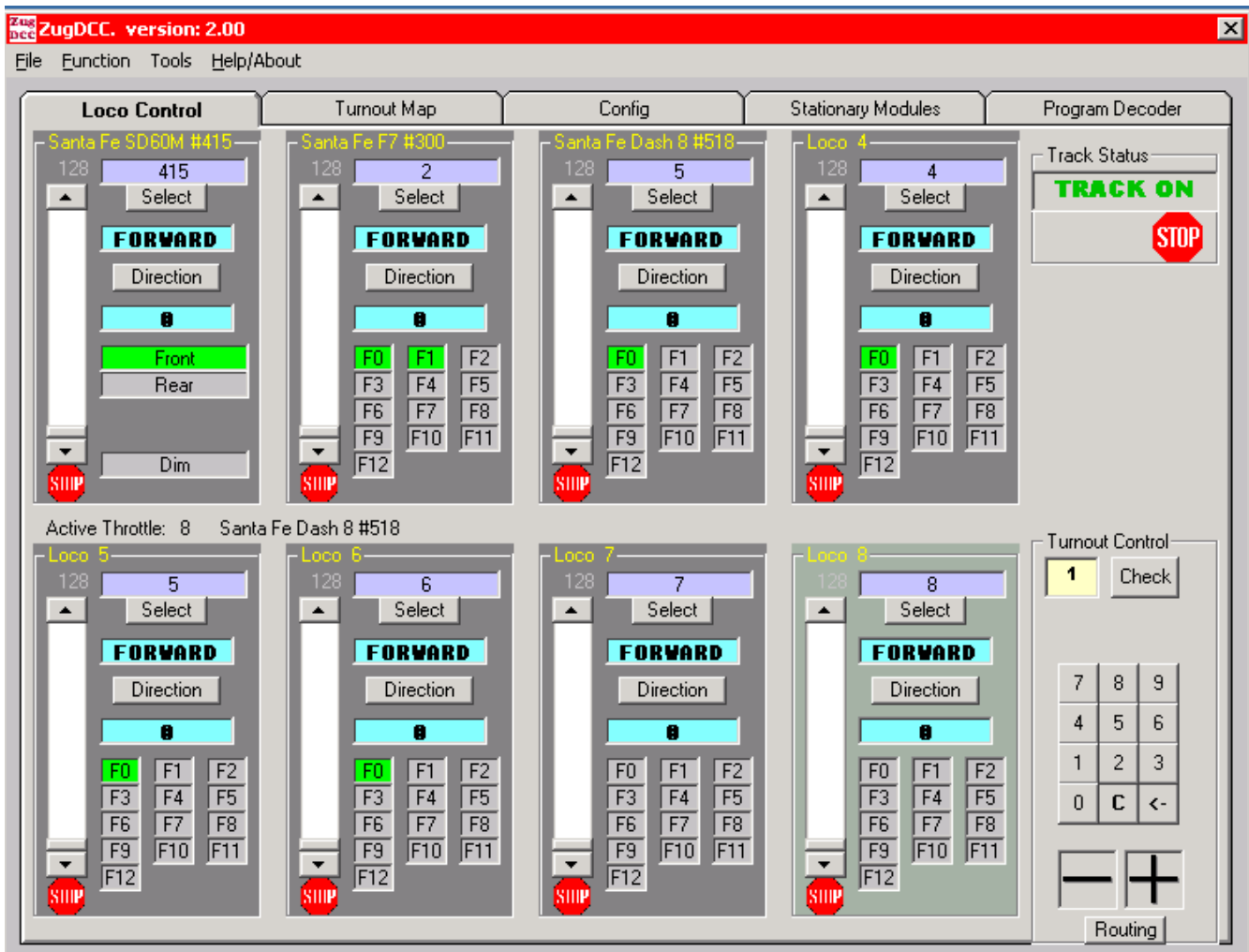
Press the WINDOWS-Key+R to open the run box and enter the command lines as shown.

```
"c:\Program Files\zugdcc\zugdcc.exe" RESET
```

A port number is grayed out if it is not fount to exist on your computer.



The Main Screen



The main screen is a tabbed window with all the controls on it. On the Loco Control tab you will find 8 throttles. Each has a Slider for the throttle of the selected locomotive, about it is the step mode for that decoder and below a fast stop button. Each throttle frame show the locomotive name is it has been set in the database.

The box below the decoder address. The background of the address box will turn red is another throttle takes control away from ZugDCC.

The SELECT box opens the locomotive address selection window. The next below that is the direction display the the direction toggle bottom, and finally the speed setting.

Next are the F-Keys. By default, they are named F0 through F12. But you can customize the captions on them in the throttle configuration or per-loco in the the loco selection window.

The "Track Status" frame on the upper right shows it power is going to the rails (ON) or if the system ins in "Emergency Off" caused by a short or press a emergent stop button on a throttle. Clicking the the "stop sign" in the frame puts the system in the emergency off state cutting power to the rails. Clicking it again with restore power.

Selecting a Locomotive to Control

Select Loco for Throttle 1

Decoder Number: 7 8 9, 4 5 6, 1 2 3, 0 C <-

Address: 415

Step Mode: Current

Select Loco

Add to MU Consist

Reversed

Remove from MU

Search by Description:

- Santa Fe F7 #300
- Santa Fe SD60M #415
- CP SD90
- Santa Fe Doodlebug
- Sunnydale PA-1 #101
- Santa Fe Dash 8 #518
- Santa Fe Dash 8 #8610
- Santa Fe Dash 8 #502
- Sunnydale PA-1 #102
- BNSF SD60M #9299
- CP RS-3 #8426

Database Info/Add/Updated

Description: Santa Fe SD60M #415

Loco Brand: Atlas

Decoder Brand: Lenz

Decoder Model:

F Key Captions:

F0	Front	F1	Rear
F2		F3	
F4	Dim	F5	F5
F6	F6	F7	F7
F8	F8	F9	F9
F10	F10	F11	F11
F12	F12		

F Key Format:

F0 to F12

F0 to F8

F0 to F4

Address: 415

ADD/UPDATE Delete Use F-Key Defaults

From the throttle you want to use, click SELECT. Make sure the "Select Loco" radio button is selected. Enter the up to 4 digit decoder number and click ENTER. All operation are exactly as labeled.

When use save a new loco you can select the number of F buttons to show and give them buttons custom names.

Database Info

After setting the address number, in this frame you can add information about that loco. Most information is option for your reference. At the very least you should put in a good description of the loco. F-Key format lets you set the way the keys are displayed on the main screen. F-Key Captions lets you give custom names to them. A blank caption will cause that button to not be displayed.

If you pre-fix a F-key with a * it becomes a momentary function and stays on only as long as you hold the mouse button down. This will work with F0 through F12. So *F2 will only stay on while you hold the mouse button down.

Setting up a MU

On the throttle of the locomotive you have already selected to operate, click SELECT on the selection Window, click the radio-button for "Add to MU". If the locomotive is to run in the reverse direction select the "Reversed" check box. Enter the 1 or 2 digit number for the MU consist you want to make or add to and then click ENTER. Repeat for each locomotive you want in the MU. The throttle will now show the MU number below the actual decoder number. You still control the Functions of the decoder, but the direction and speed controls operate the entire MU consist.

Removing a Locomotive from a MU

Select the throttle for the locomotive you want to remove from the MU, click SELECT. From the Selection window click the radio-button "Remove from MU". Click ENTER. And the locomotive is remove from the MU consist. It just that simple!

Deleting a Loco

Select it on the selection window, then click DELETE button and confirm when asked if it's ok to delete. NOTE: There is no undo feature!

Changing Loco Address

Select it on the selection window, then click the button displaying the address in the add/update frame. A new windows with open, enter the new address and click OK. NOTE: There is no undo feature!

Operating a Locomotive

After selecting a locomotive as above, you can operate if from the throttle you selected it from. All function are as marked. MU and the MU number will be displayed in orange on either side of the select button if the loco is MU'ed.

Turnout Control

Select the address of the decoder you want to control and use the + and - on the screen or keyboard to operate the turnout decoders.

On the Turnout Map, you can setup markers to show the status of turns. When ZugDCC is first run it makes a blank image file to be used for the map. Use any graphics program that supports the BMP format to draw a map of your layout. A program called Paint is included with all versions of Windows that will get the job done, but you can use any program you like, just do not change the size of the image. I decided not to include a built in graphics editor for making the map as it would add a lot of extra bulk to the program for something not often used and everybody already has a least one graphics program already.

From the menu bar click Tools>Turnout Map>Add Turnout or press Ctrl-A to set turn out points on the map. Select the stationary decoder you want to place and click where you want it. Then a box will come up to enter information on the new location:

Move Stationary Decoder

Stationary decoder address: 1

Main > Sunnydale Loop

SAVE

CANCEL

Decoder Function Type:

- Momentary (Snap Switch)
- On-Off
- Crossing Blink / Signal

Decoder Model

- LS100 (feedback)
- LS110/150 (no feedback)
- Non-Lenz / No feedback

Enter the need information and click SAVE.. or Cancel if you change your mind about this new location. The program will then return to normal operations. Repeat as need for all other stationary decoders.

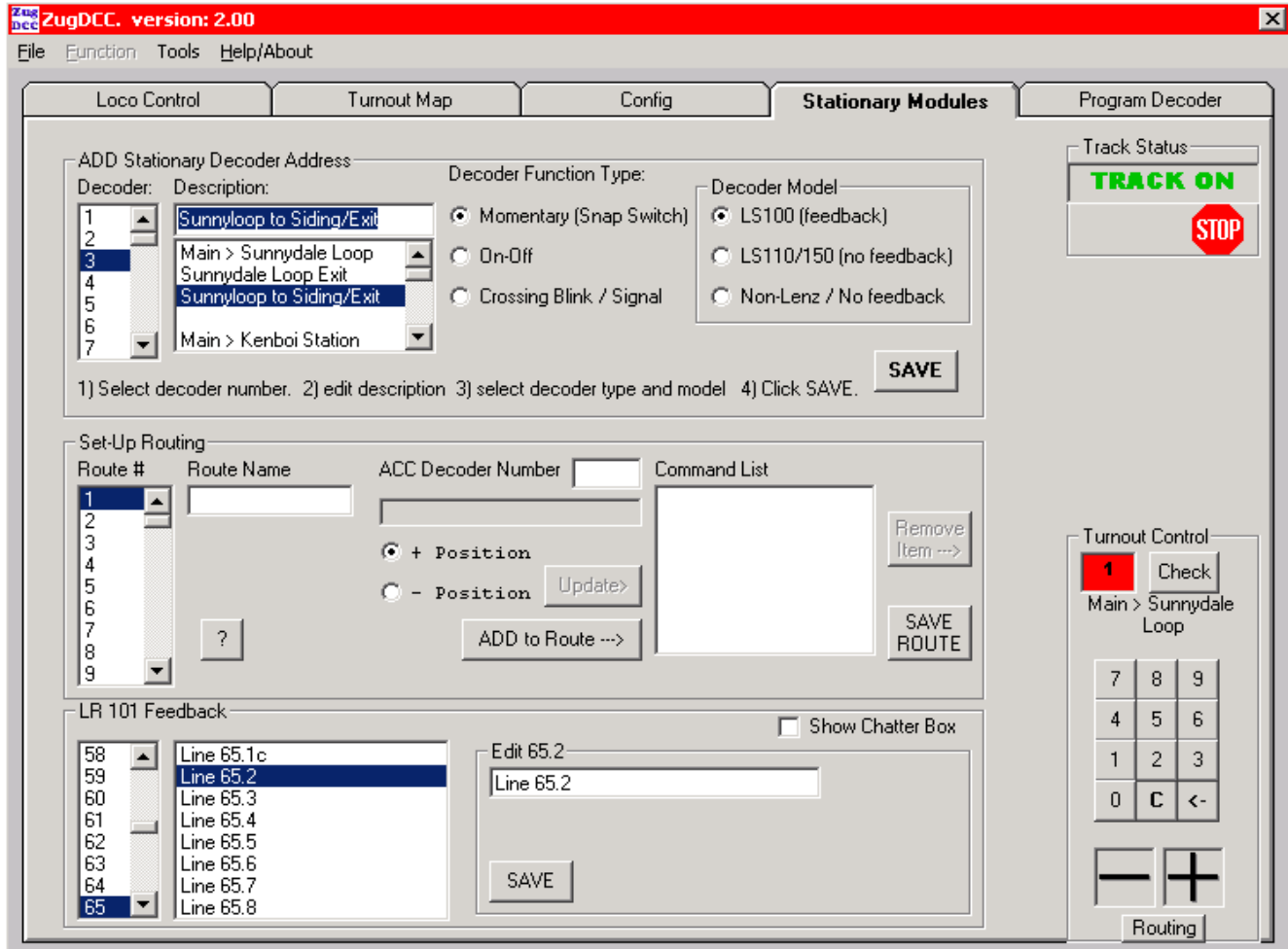
You operate the stationary decoders from the map but left clicking for - and right click for +. Center click (if you have a three button mouse) to check the status of the turnout.

Red is the - position,

Green is the + position.

Yellow is position unknown, the decoder has not be operated since the command station was turn on.

Setting Stationary Decoders



Go to the Stationary Modules tab. In the ADD Stationary Decoder Address frame:

- 1) Select the decoder number you want to setup or edit.
- 2) Edit the description for that decoder.
- 3) Use the radio buttons to select the decoders function and model.
- 4) Click the ADD button to save.

Setting Up Routing

Go to the Stationary Modules tab. In the Setup Routing frame:

- 1) Select Route Number to work on.
- 2) Enter ROUTE NAME for the route you want to create
- 3) Enter ACCESSORY Decoder Number for the decoder you want to control.
- 4) Select + or - position that you what to set the decoder to.
- 5) Click ADD to Route to add the setting to the command list.
- 6) Repeat steps 3, 4 and 5 to add more commands.
- 7) Click SAVE ROUTE that save the commands to your hard drive and at them to the list of routes.

To access routes, click 'Routing' on the 'Turnout Control' frame. Select the route you want to run and click 'Do'. Click ACC to return to single Turnout Control'.

Setting LR101 Feedback Locations

Setting the position on the turnout map for the feedback locations works basically the same as the switches. The addressing for the feedback is in the format: LR101_Address.LINE

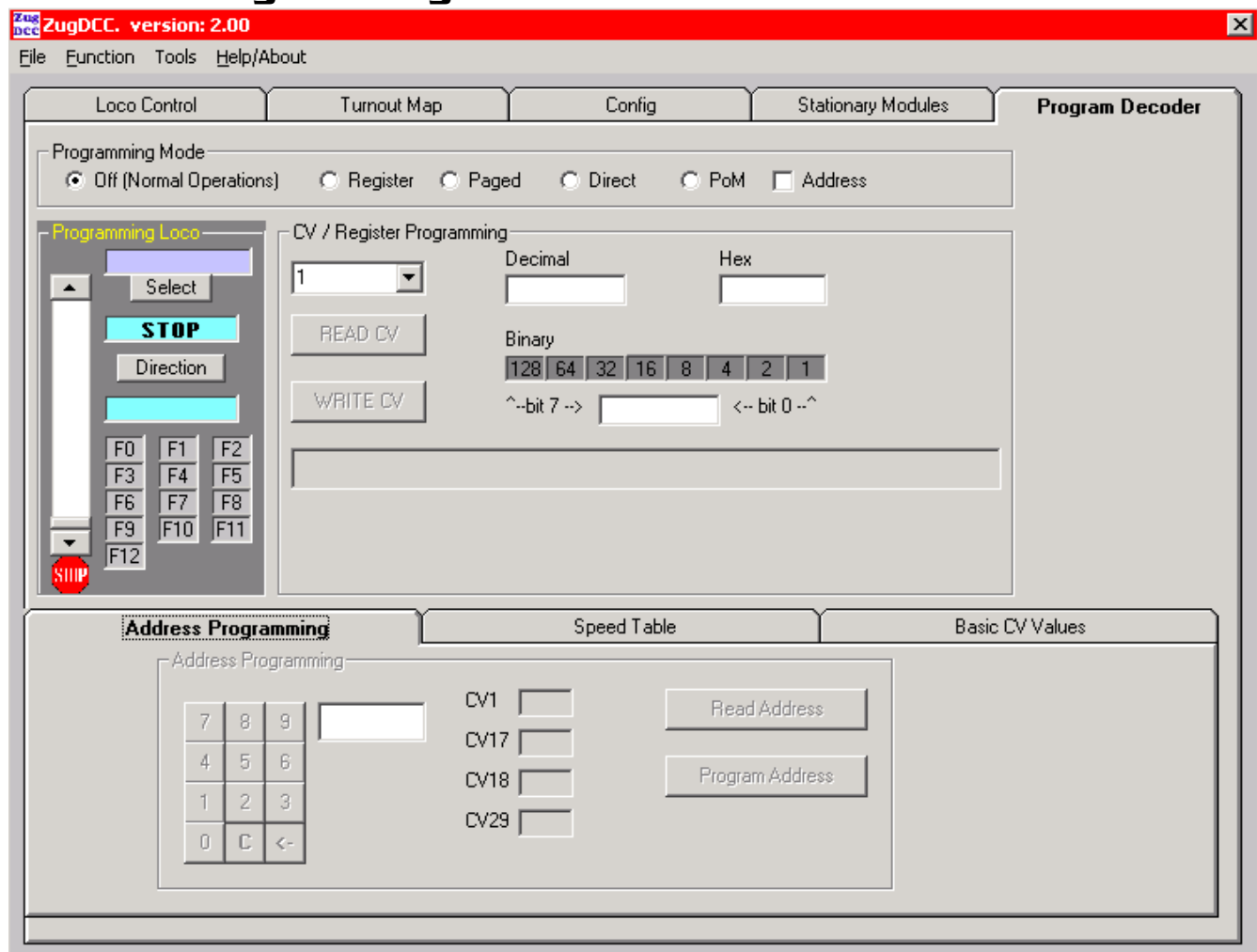
So address65 with input one would be 65.1

On the stationary modules tab, you enter the description for each in the fields provided.

They are placed on the map from the menu bar TOOL>Turnout Map>Add/Move LR101, and the rest works just like setting out a stationary decoder.

For now, the feedback simply turns the markers on the map red (active) or green (open). If the "ChatterBox" option is checked, a window will be shown the display the last few feedbacks received.

Decoder Programming



Select the programming mode you want to use first.

In the CV / Register Programming frame use the drop-down box to select the CV / register you want to read (not available in PoM mode) or program.

Click Read CV to read the current setting for the selected CV or

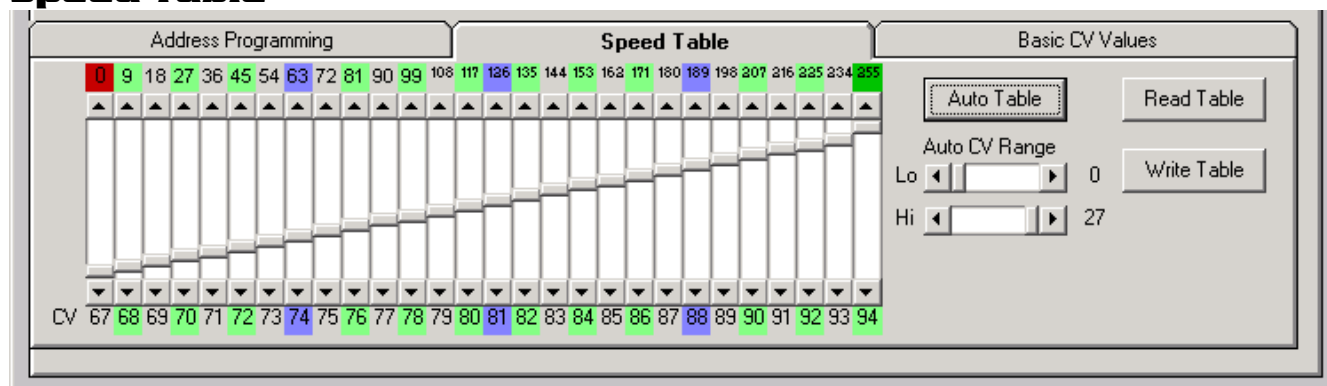
register. Read CV is not available in PoM mode. The value will be displayed in decimal, Hex and binary. You can change the value from any of the displays. Binary can only be changed at the bit click boxes. After making the changes you want, you can write them with the Write CV button.

A throttle is also on the programming tab screen to allow easy testing of new setting, the decoder selected with this throttle also selects the decoder to be programmed in Program on Main (PoM) mode.

Address Programming

Checking the []Address box lets you easily program or read your decoder's address. Simple click read to find out it's address. And you can programs it simply by inputting the address and clicking Write Address.

Speed Table



Programming a speed table by hand is not fun.. Nor is reading them. To read them from the Speed Table tab, you must have a loco on the programming track ready to be read and/or programmed. Just click the READ button to start the scan of the speed table. It will read CV67 through CV94 and display the resulting on the slider bars and the numbers above each slider. You can abort the scan using the About button of needed.

The values can be changed for each CV using the sliders. You can also set of a linear range of sliders using the Auto Table button. If you only want to effect a certain range of CV's use the HI and LO sliders to set the range. The Hi CV will be highlighted in bright green and the Lo in bright red.

Once you've created your speed t able, click WRITE to program it to the decoder. Do not interrupt the programming process, unpredictable results may result.

BASIC CV

Address Programming Speed Table **Basic CV Values**

CV 1 Address CV 6 Mid Speed
CV 2 Start Voltage CV 7 Version
CV 3 Acceleration CV 8 Manufacture
CV 4 Brake CV 19 Consist Address
CV 5 Max Speed CV 29 Config

CV 29 Config Values
Speed Table
Analog Mode
Normal Direction
2 or 4 digit address

READ CVs CLEAR Write New Value(s)

This lets you easily read and change the main basic CVs as well as details on the bits of CV29.

Other Configuration

On the Config tab, click Configure Throttles/Turnout Map to bring on a windows to set a number of options.

ZugDCC - Configuration

Throttle F Captions

F0	F0	F1	F1
F2	F2	F3	F3
F4	F4	F5	F5
F6	F6	F7	F7
F8	F8	F9	F9
F10	F10	F11	F11
F12	F12		

DEFAULTS SAVE UNDO

Functions to show

0 1 2
 3 4 5
 6 7 8
 9 10 11
 12 Emrg. Stop

Throttle Format

F0 to F12
 F0 to F8
 F0 to F4

Follow-the-mouse throttles

1 2 3 4
 5 6 7 8

Throttles To Show

1 2 3 4
 5 6 7 8

Turnout Map

Stationary names below dot
 Show Built in switch names
 Show Feedback names

Changes take effect after restart

CLOSE

Throttle F Captions sets the defaults for each F-Key. Starting the caption with an * makes it a momentary button.

Follow-the-mouse throttles enables which throttles auto select when you move the mouse pointer over it and allows you to use the keyboard F keys, arrows for speed control, DEL-key for fast stop. Ctrl-D for direct, Ctrl-S for select loco.

Throttles to Show allows you to hide unneeded throttles.

Functions to Show lets you hide deselected F-Keys or the throttle's fast stop button.

Throttle Format set the way the F-Key are displayed. F0-F4 will probaly work well for a lot of people.

Turnout Map

Stationary names below dot display the names of the stationary decoders below the dot instead of above.

Show Built in switch names turns on using the names from the database. Disabling this is useful if you've upgraded from an older version of ZugDCC and have put the name directly in the map image file.

Show Feedback names turns on using the names from the database of LR101 locations.