LocoNet-Checker V2.9.2 (has not been updated to the latest version)

This program helps you to manage your Digitrax devices connected to the Loconet bus and monitor their behaviour. It ensures that all devices have the correct settings.

The key areas of functionality are:-

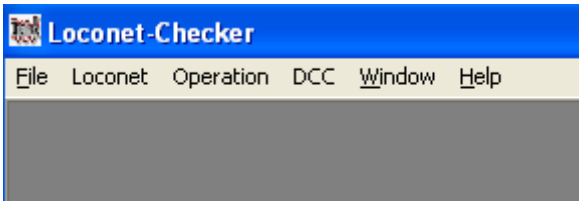
- Smart Configuration of your Command station. Easy to use settings window that allows you to make a change in a flash.
- Configuration of all BDL, PM and SE devices connected to your Loconet. The system stores your default settings for future reference and allows you to change the setting of any device instantly. The screen shows the current settings of all devices side by side for easy reference.
- BDL/DS54 Message viewer. This window displays and counts all sensor and Transponding messages allowing you to see if any boards are not behaving correctly. The system reports how many messages were lost on interrogation.
- Manual sending of any Loconet Message (checksum automatically calculated)
- Background logging all Loconet traffic to disk. This is useful when a problem has occurred with computer based control systems and you need to become the forensic detective.
- Smart Slot monitor that automatically synchronised with the Slot Manager. This monitors any problems with Slot Manager and Computer throttles. It shows also your consisted locomotives. Shows now in addition (if ALM used) the name of the locomotive & Id of the locomotive, the throttle name and the current transponding zone name. The slot monitor has the capability to stop or release all trains and also to allocate all trains defined in the ALM-Database (useful for transponding)
- Turnout checker allows you to check all your turnouts before you start a train session.
- ALM editor allows you to enter names for your locomotives and turnouts
- Display of all CML board in the screen “HW-Configuration” with the basic data
- Display of the LocoIO-Modules in the screen “HW-Configuration” with the basic data
- Separate screen for entering DS54 data
- Display of SIGM10 SE-messages in the screen BDL16
- Extra screen for displaying all loconet messages with filtering possibility
- Added full support for the DCC pocket tester, display loconet messages and DCC messages together, Filtering for DCC messages, saving of DCC messages
- Ready for the new Digitrax HW (DS64, PR2, etc)
- Every screen stores now its position

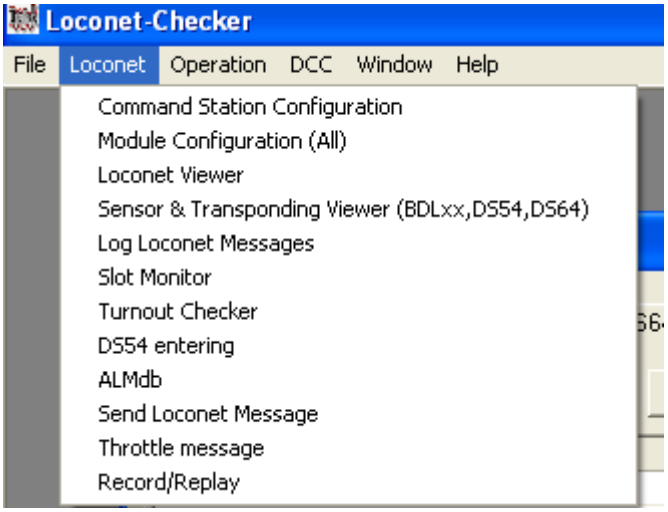
Let me know about any encountered problems (**stefan.trachsler@swissonline.ch**).

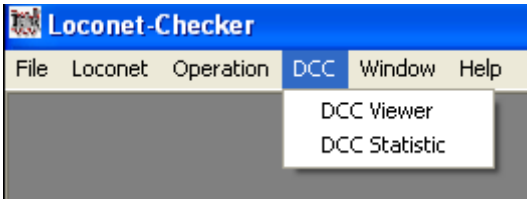
Regards
Stefan

Note: Some of the functions will need a detailed understanding of loconet; therefore these functions are more for an experienced loconet user.

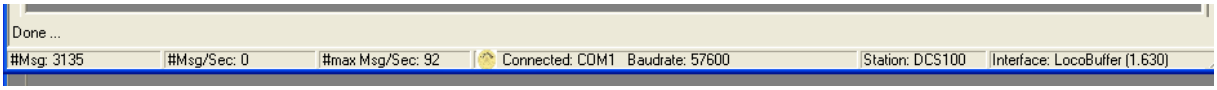
1) Menu







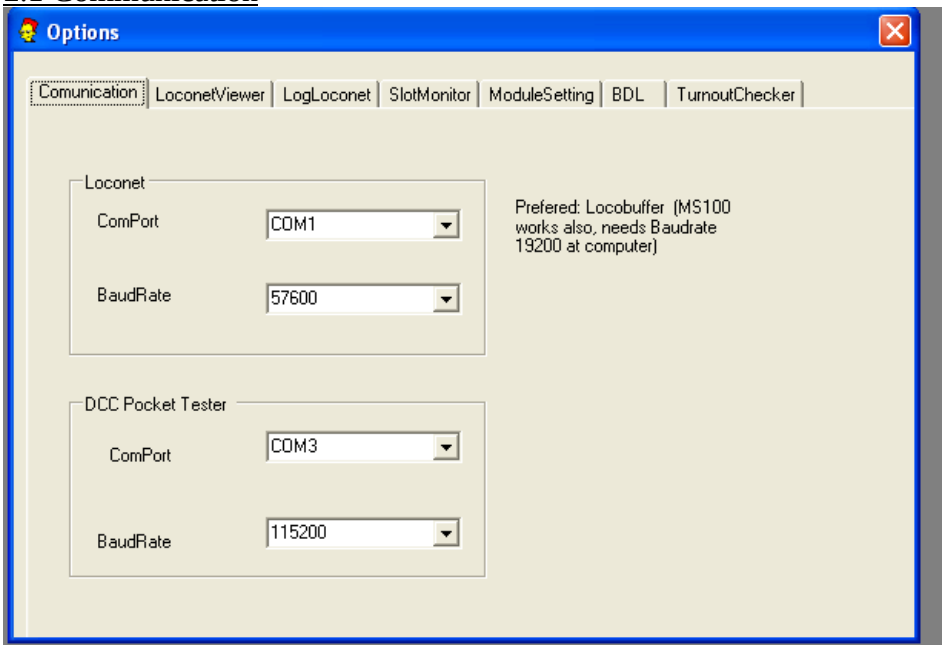
Status bar



The status bar shows also the type of the command station, the type of interface and the used ComPort.

2) Options

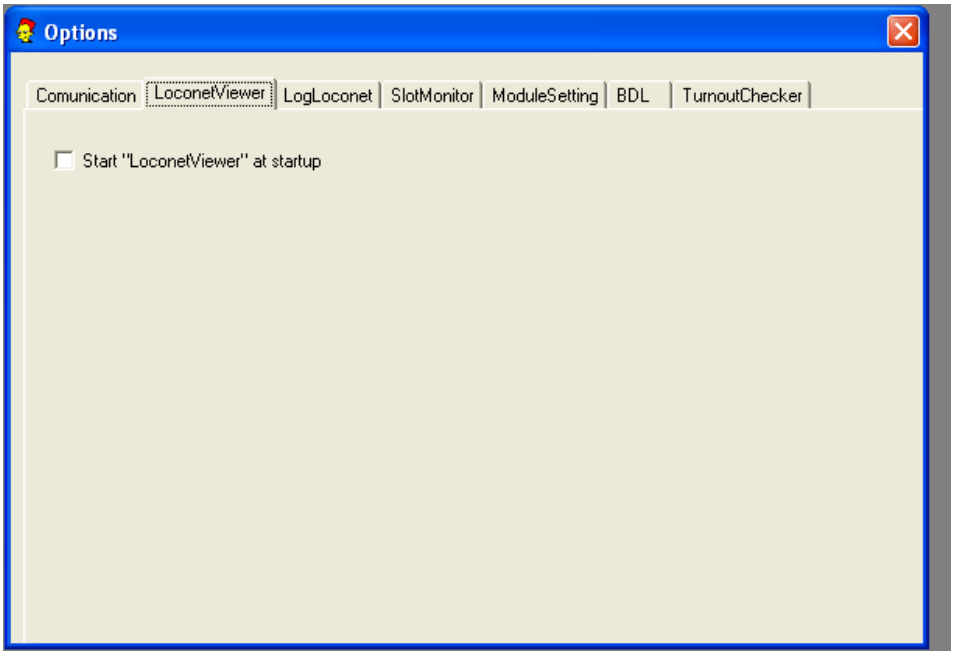
2.1 Communication



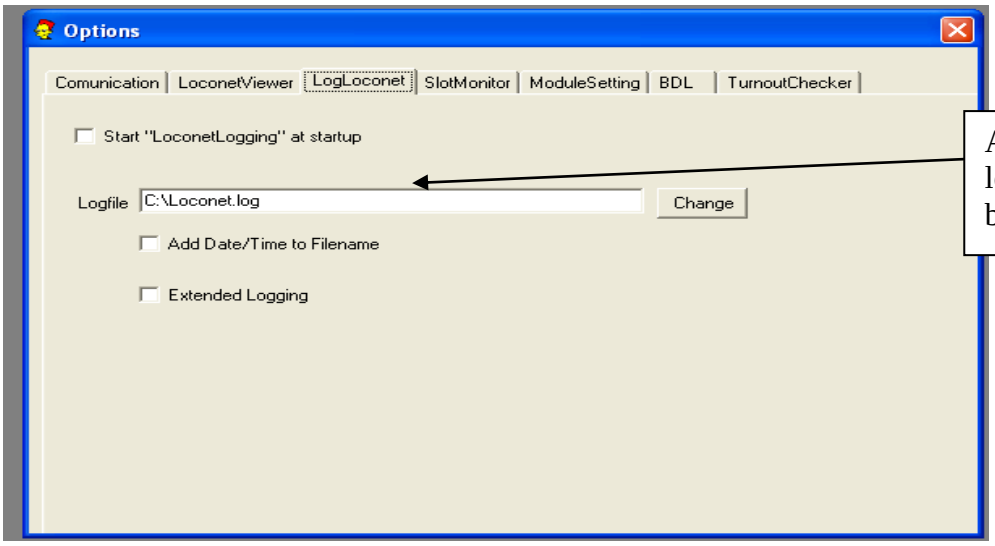
Configure the ComPort for the loconet interface and the DCC Pocket Tester from Pricom (http://www.pricom.com/Trains/DCCTester.html)

Select “NotConnected” if an interface is not connected.

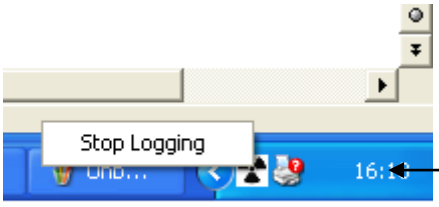
2.2 LoconetViewer



2.3 LogLoconet

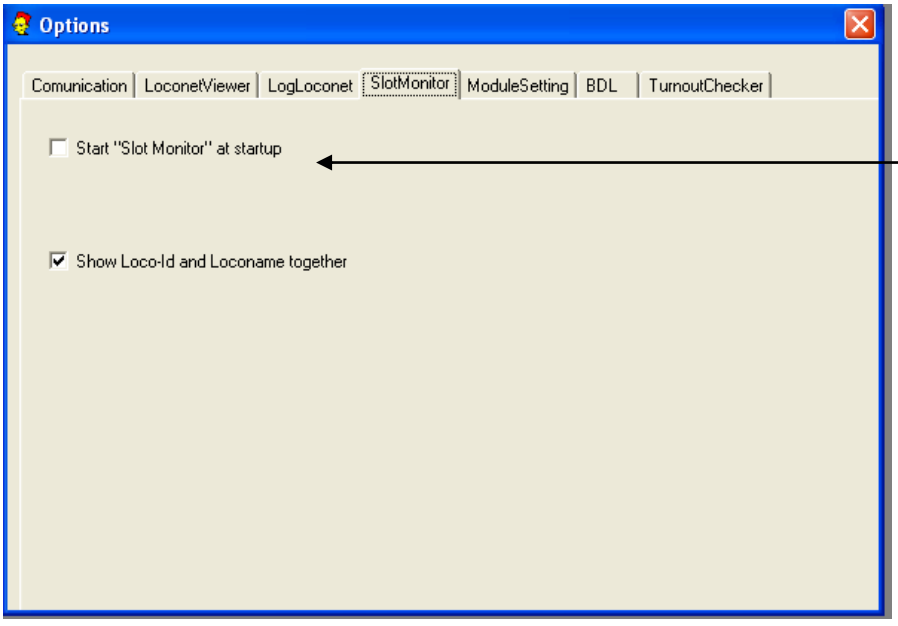


Automatically starts loconet logging in the background



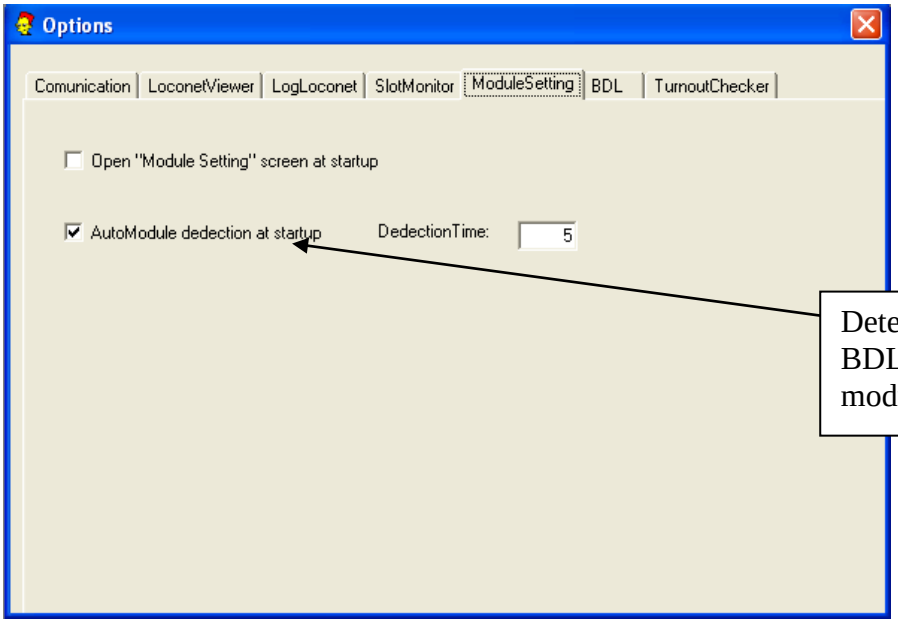
Loconet logging can be stopped with the menu option or with the notify icon (right mouse click)

2.3 SlotMonitor



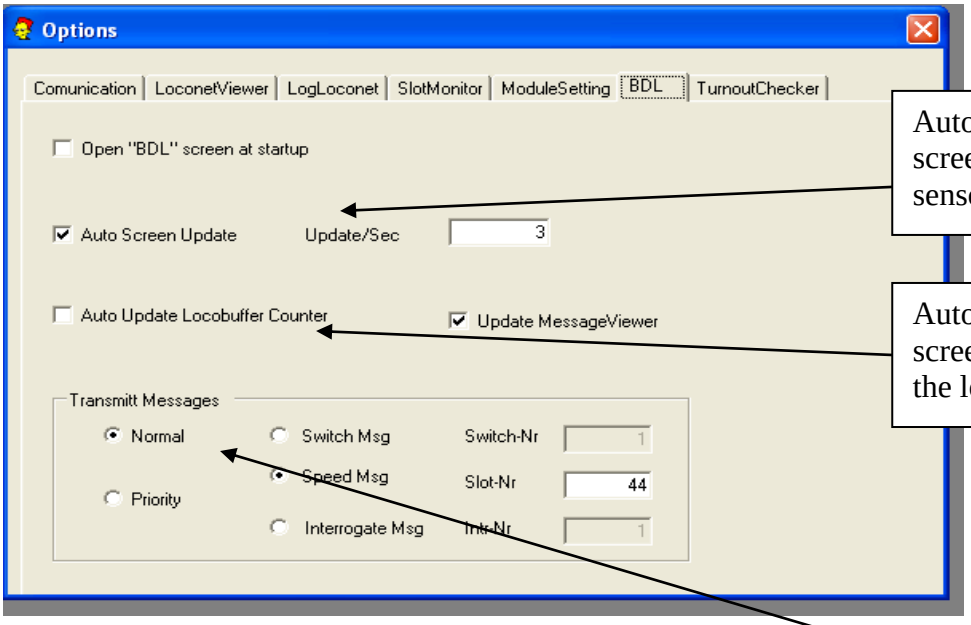
Automatically starts slot monitoring at start-up

2.4 ModuleSetting



Detects and verifies connected BDL / PM/ SE / LocoIO, etc modules

2.5 BDL

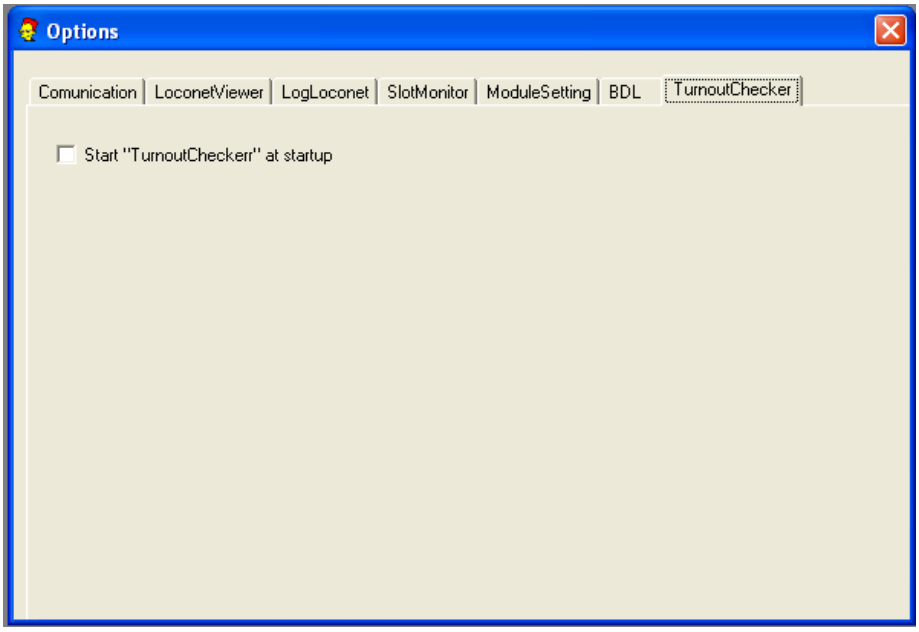


Automatically updates the screen with the new input sensor status

Automatically updates the screen with the error counters of the locobuffer

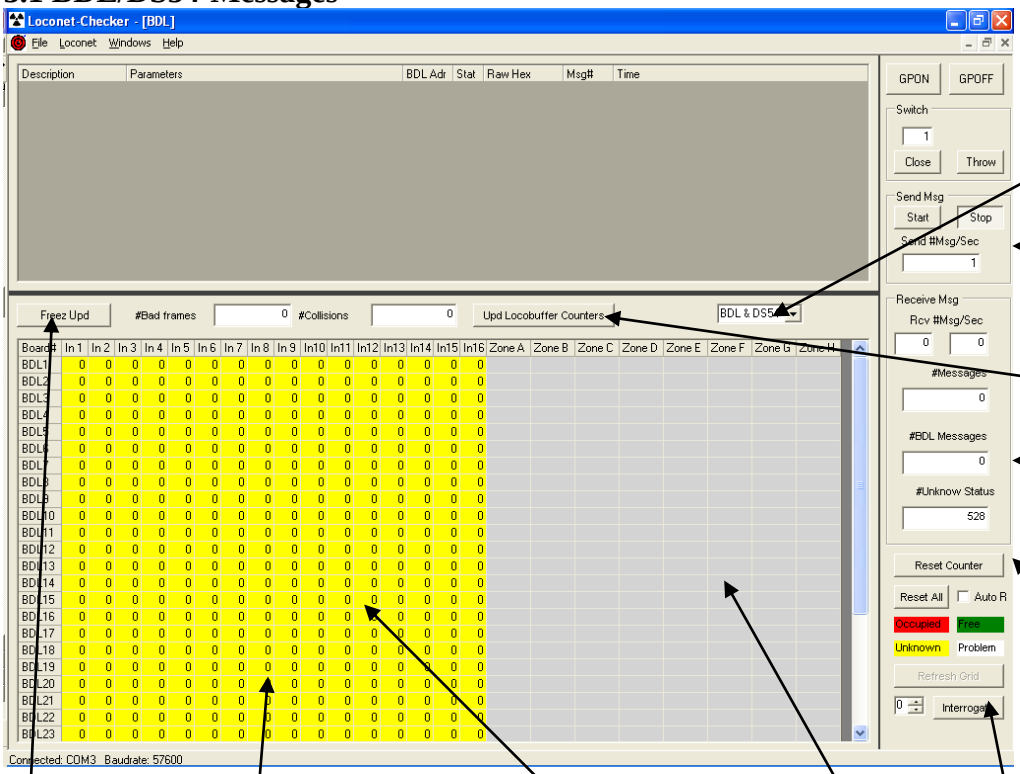
Advanced setting for producing loconet traffic

2.6 TurnoutChecker



3) Main screens

3.1 BDL/DS54-Messages



Selection of messages from modules

Sends out messages to the loconet (produces collisions)

Reads counters out of Locobuffer (needs latest

Number of BDL-Messages received

Number of BDL-sections with an unknown status (no message received so fare)

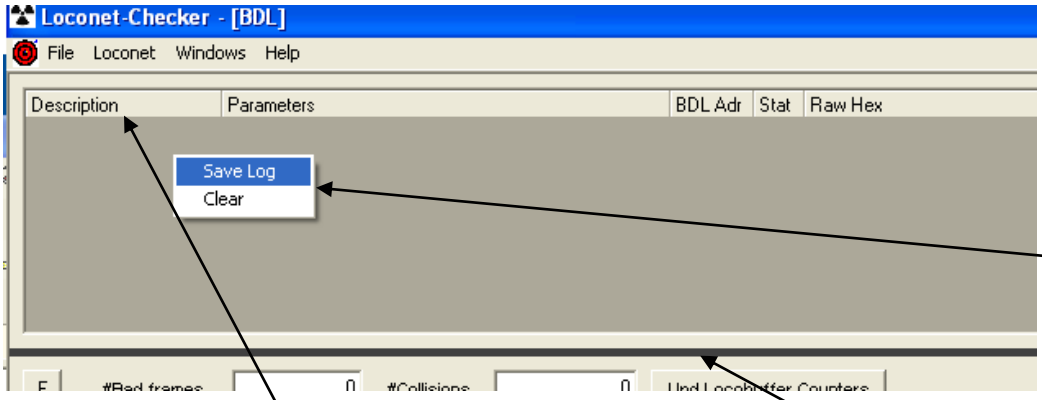
Freezes or unfreezes the updates of the loconet messages above

Double-click will show all the details of the received messages

Sends all 8 interrogate requests

Number of DS- messages so fare received for this section (DS54 messages are displayed in white)

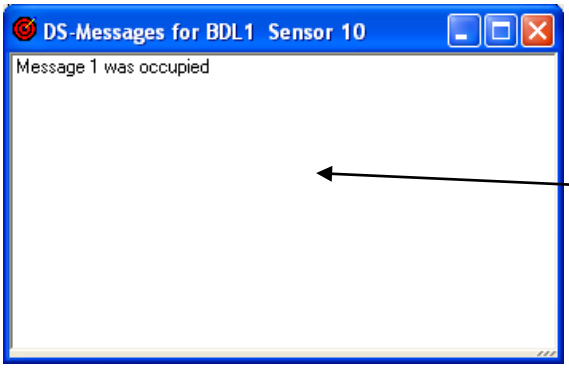
Number of Transponding messages so fare received for this section



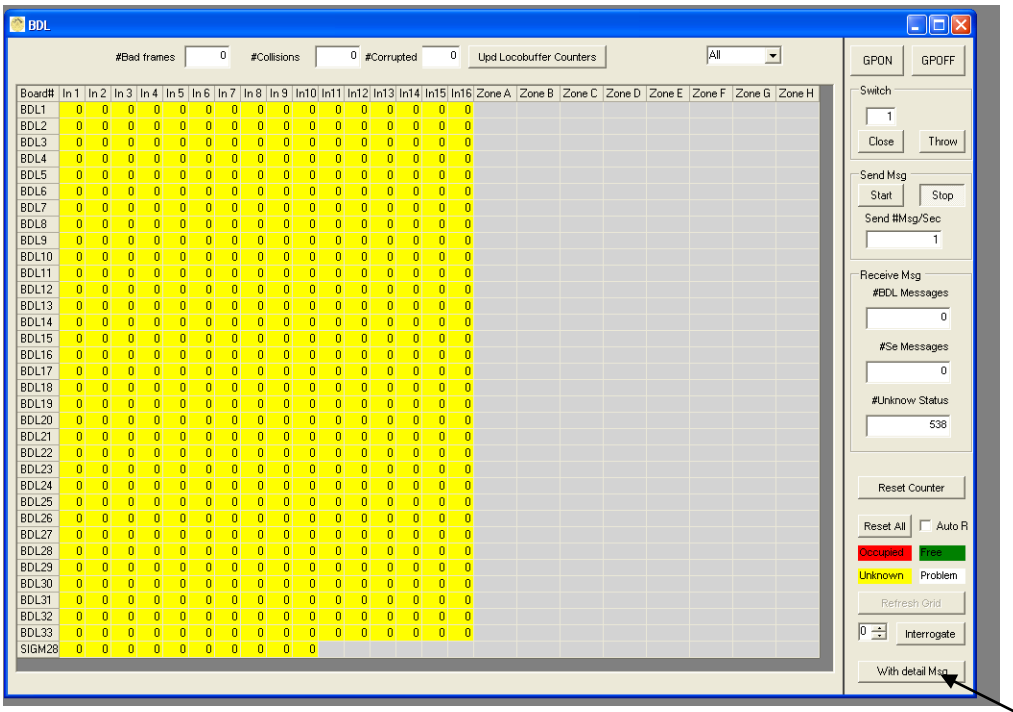
Right mouse Click: allows saving of messages to log-file and Filtering

Columns can be sorted, Column size will be saved

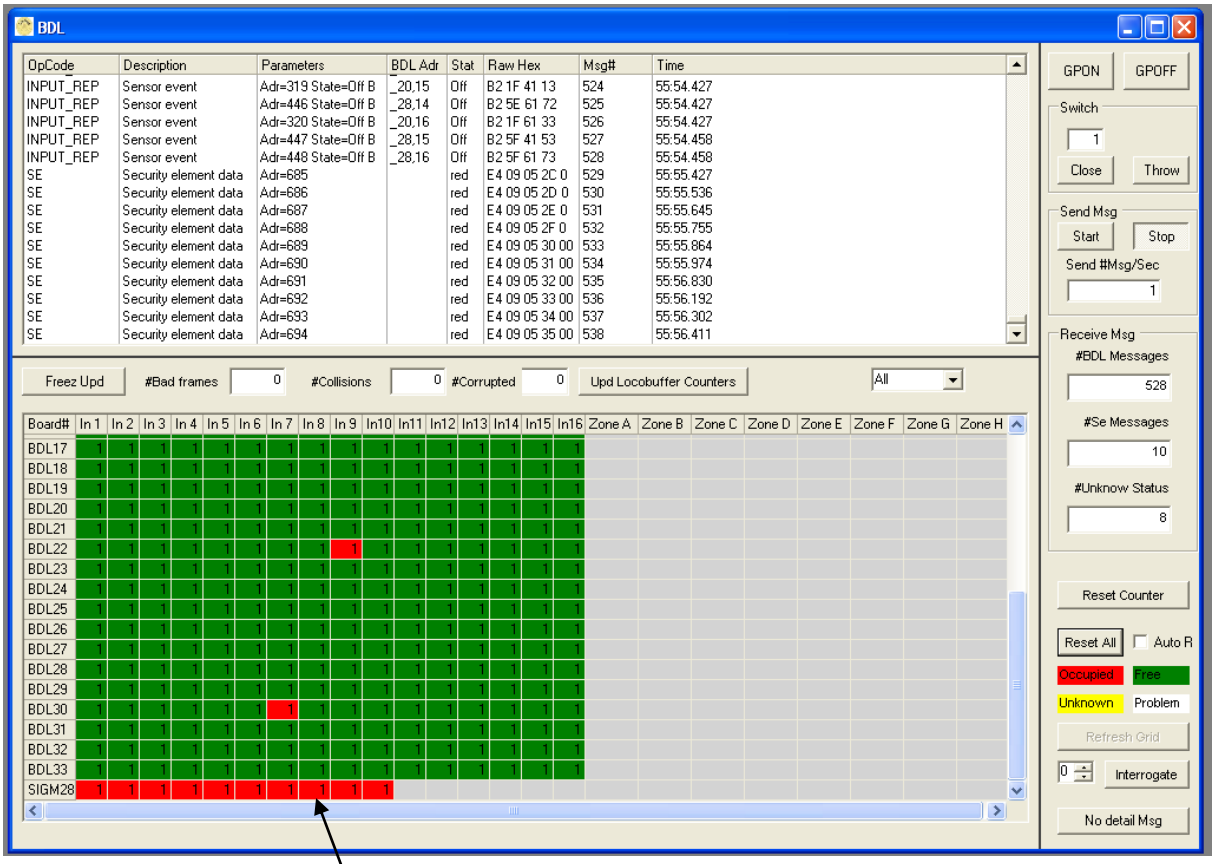
Screen-Splitter can be adjusted and will be saved



Detail DS-messages for one sensor

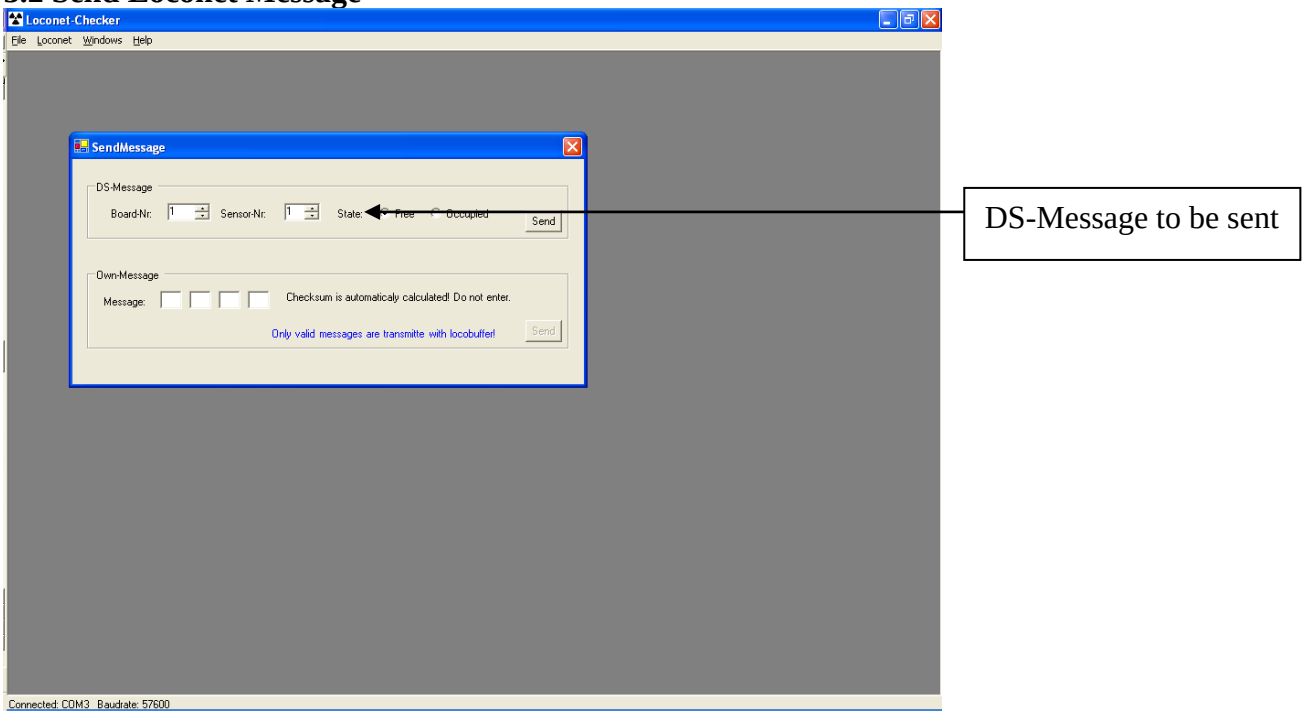


On this screen the detail messages are hidden

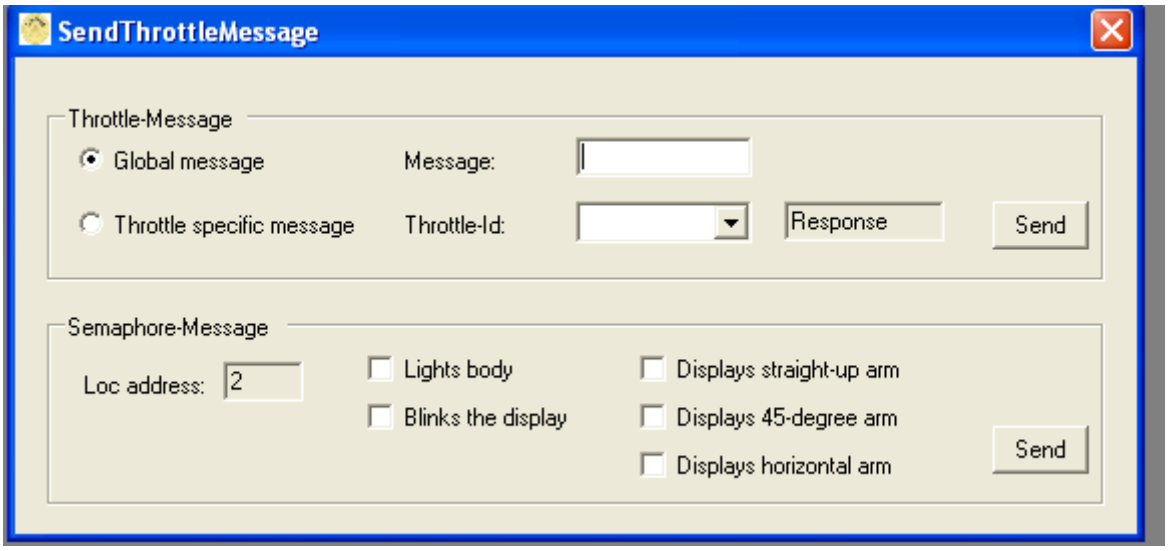


This screen shows as well the status of the SIMG10 modules from CML electronics

3.2 Send Loconet Message

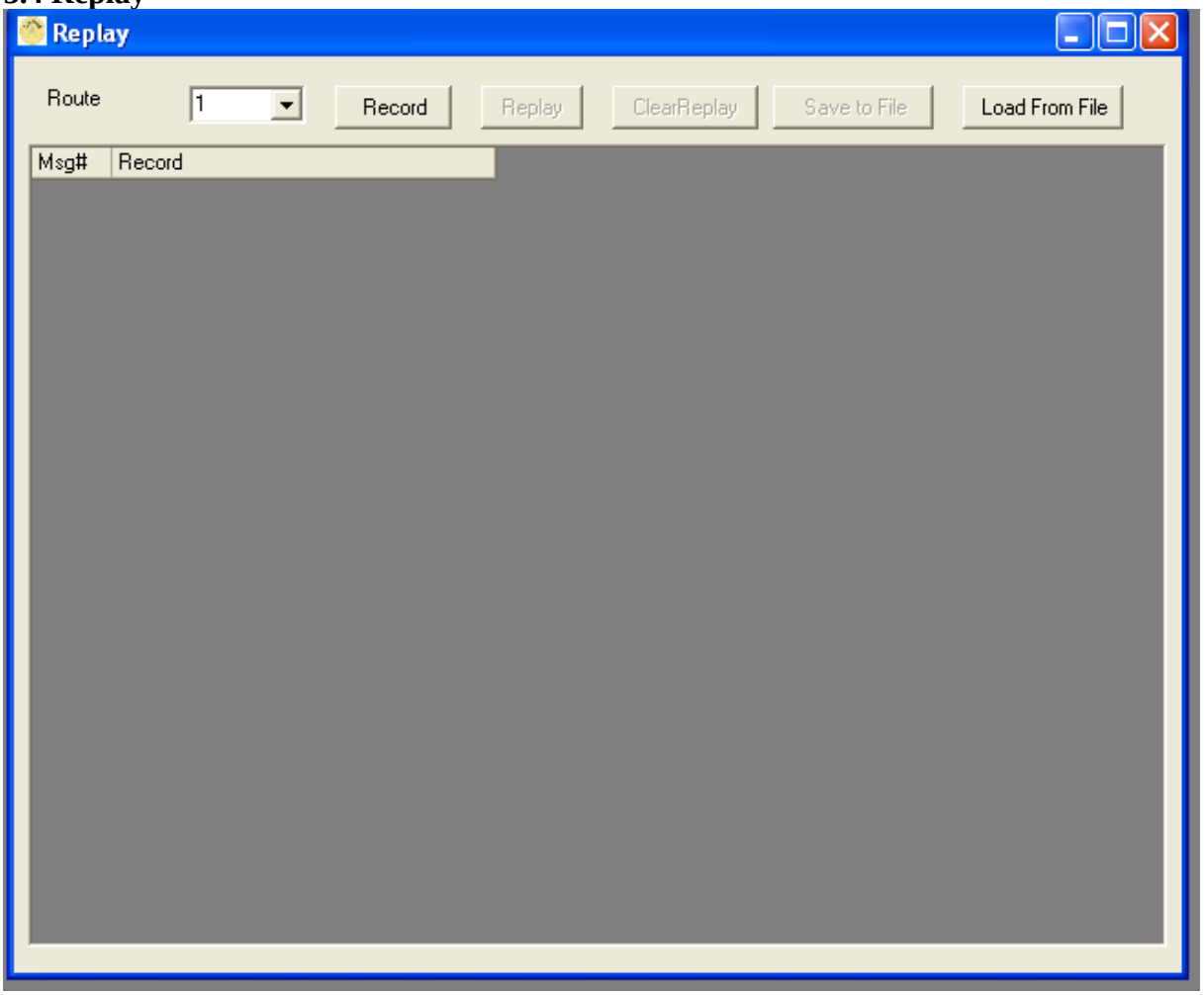


3.3 Send Throttle Message



This screen allows sending of messages to throttle. Unfortunately it does not work perfect **with the current DT400** (only one message can be sent).

3.4 Replay



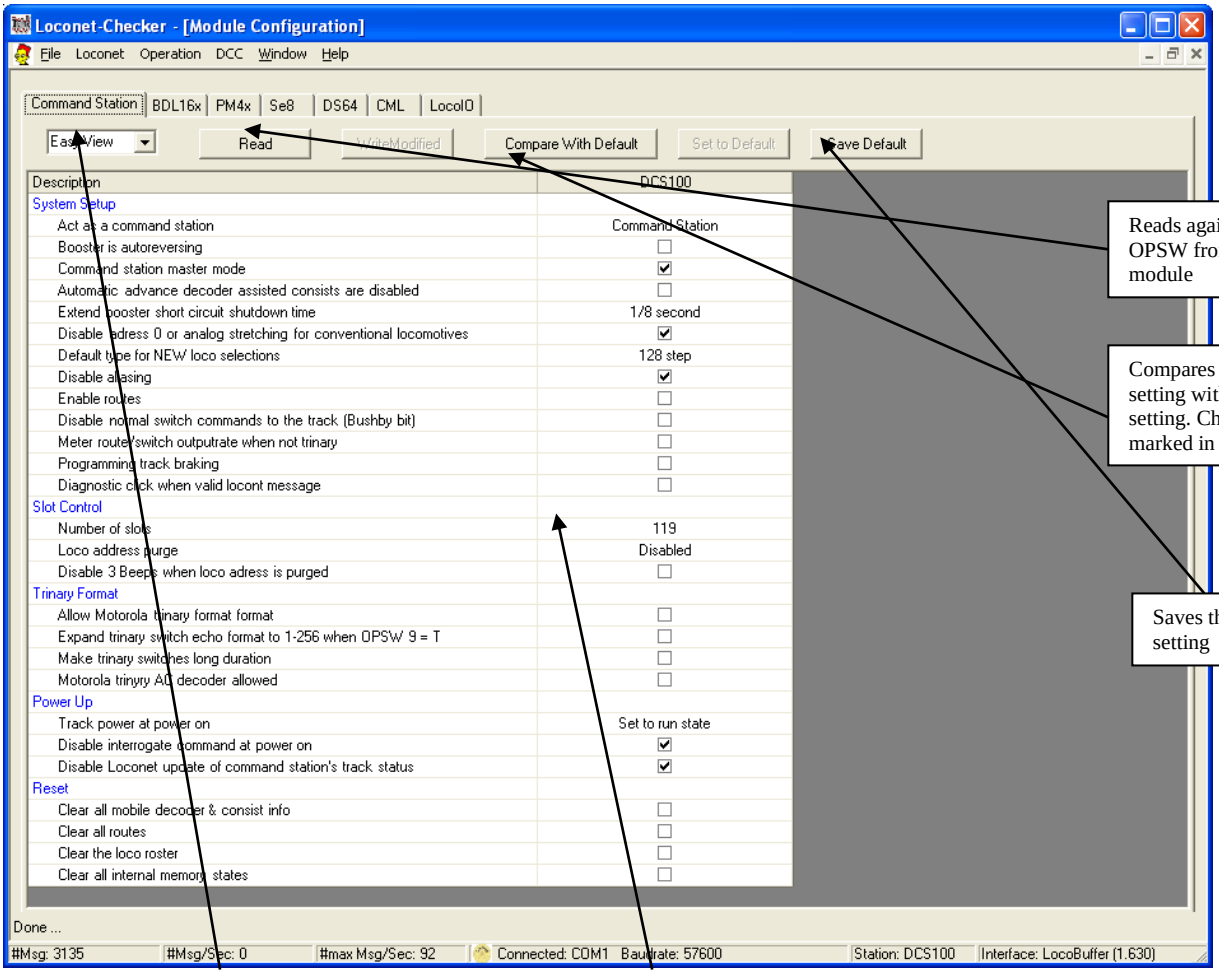
Allows recording of a train schedule and a verification of the messages from a second run

3.5 Module Configuration

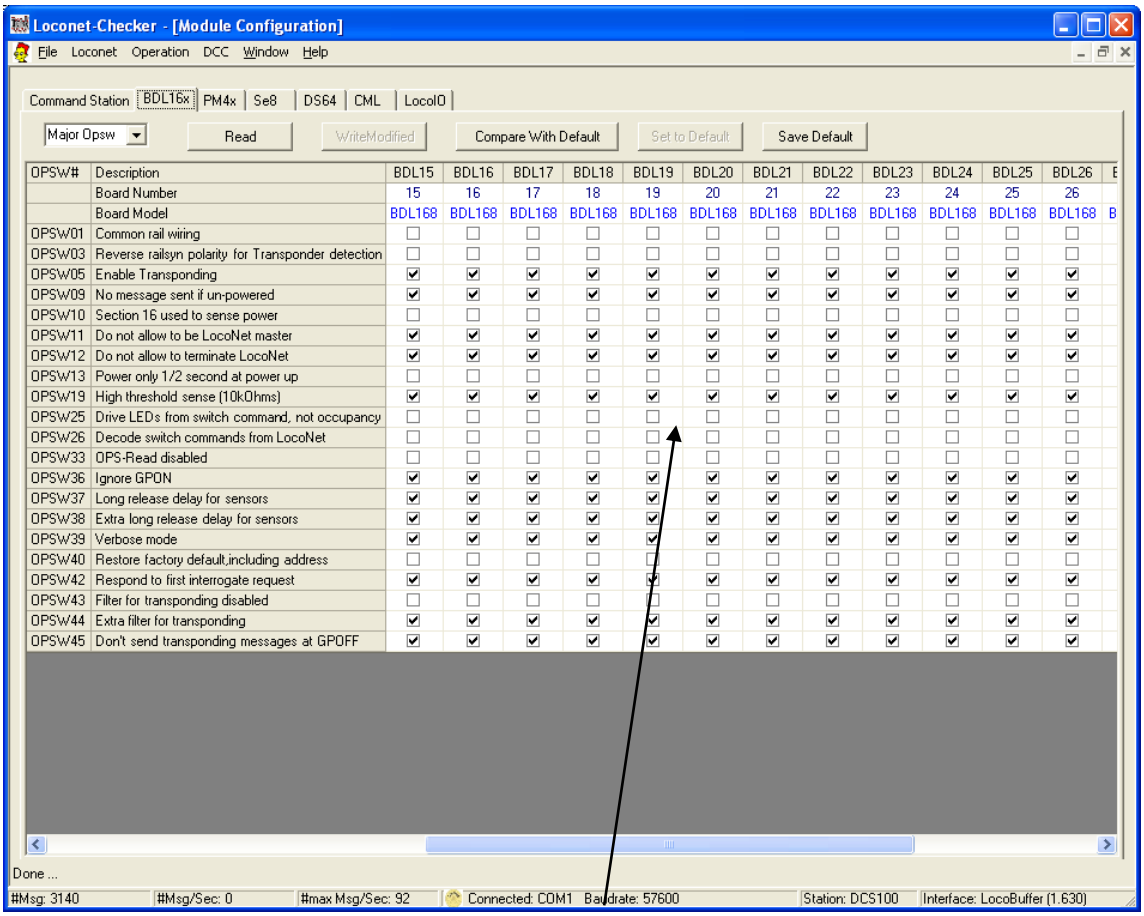
Allows the configuration of the Digitrax HW. Defaults can be saved, compared and reset. Has an “Easy View” and a “Major OPSW”-View for experts.

After the start-up of the screen, the SW detects all connected modules and reads afterwards the OPSW.

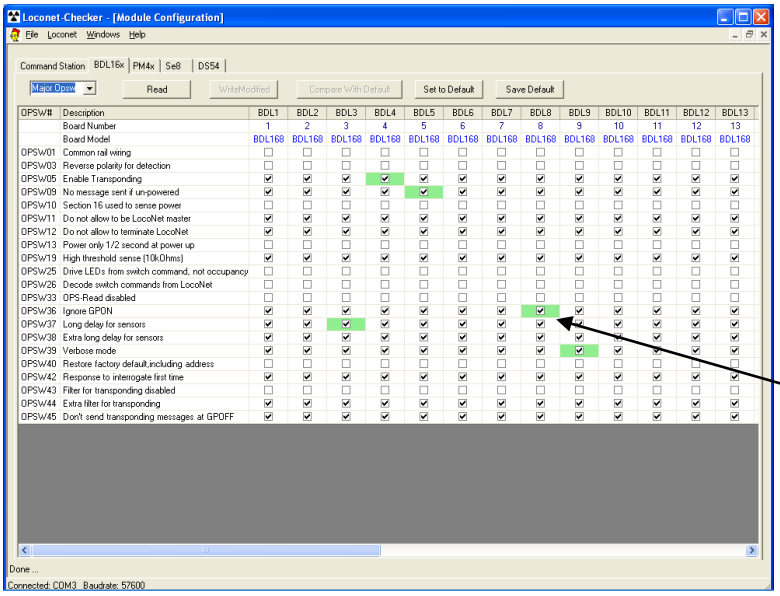
3.5.1 Commandstation



3.5.2 BDL



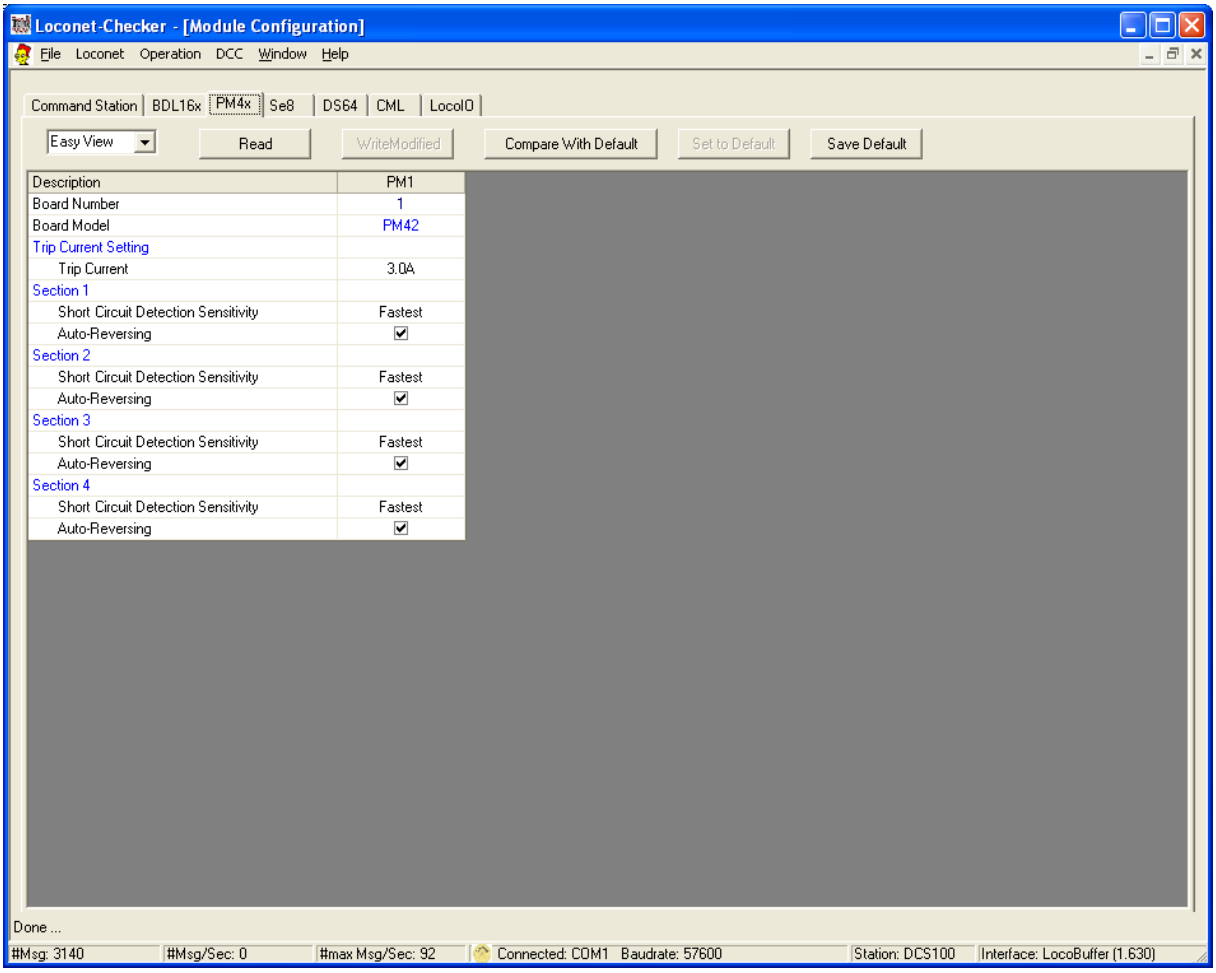
Multiselects are allowed!



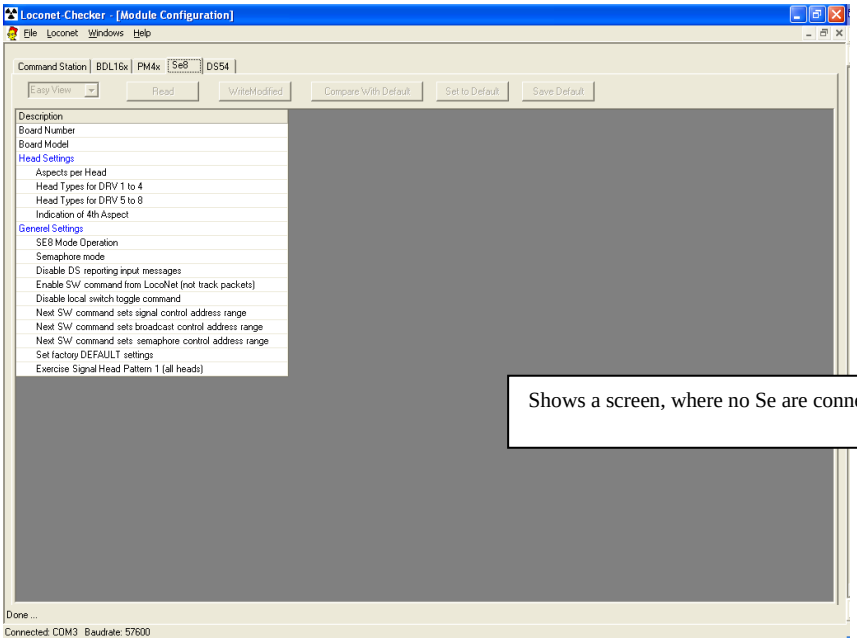
Green OPWS are different to saved default values

Shows a screen example of „Compare with Default“. The currents values are compared with the previous stored default values.
With the button “Set to Default” the user could now set the OPWS to the saved default values.

3.5.3 PM42

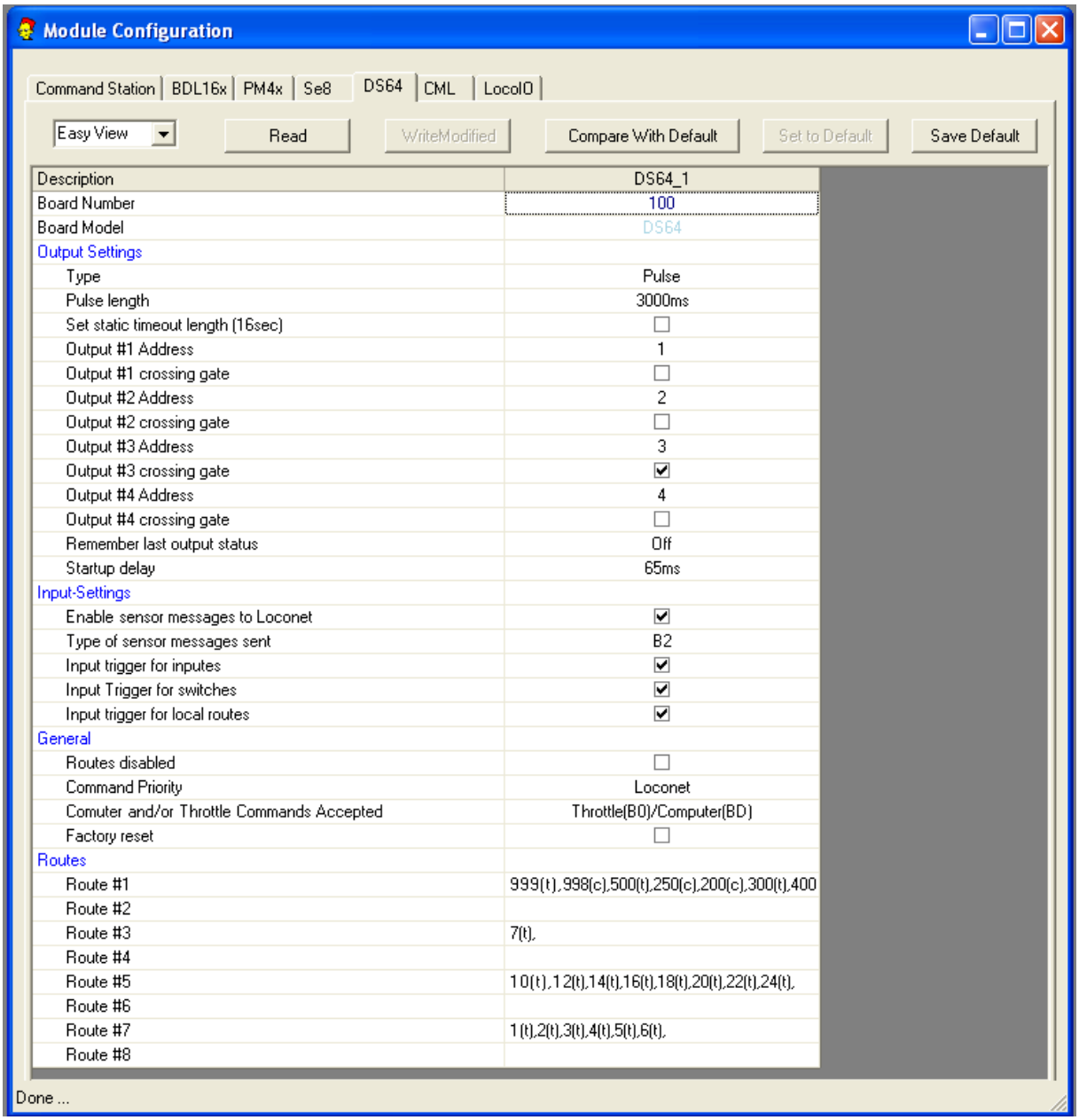


3.5.4 SE



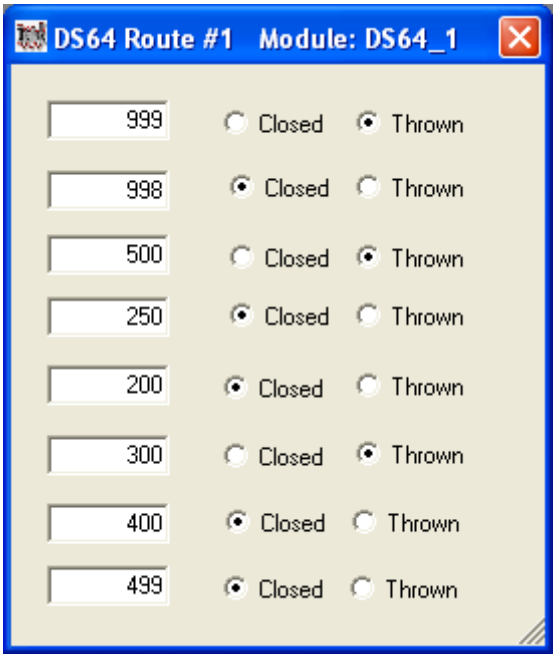
Shows a screen, where no Se are connected to the loconet

3.5.5 DS64



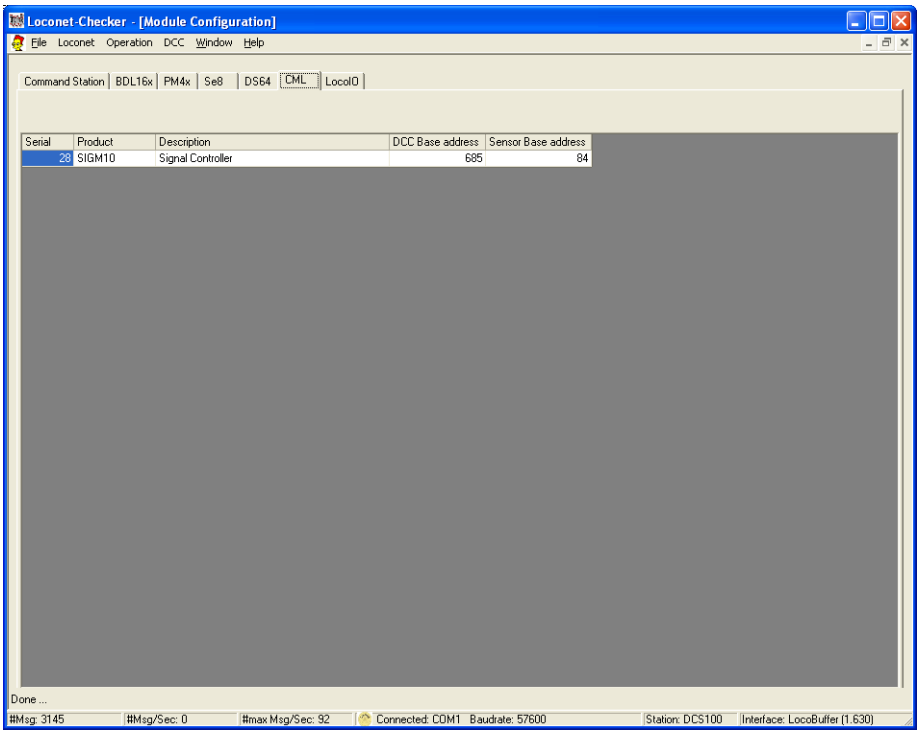
Description	DS64_1
Board Number	100
Board Model	DS64
Output Settings	
Type	Pulse
Pulse length	3000ms
Set static timeout length (16sec)	☐
Output #1 Address	1
Output #1 crossing gate	☐
Output #2 Address	2
Output #2 crossing gate	☐
Output #3 Address	3
Output #3 crossing gate	☑
Output #4 Address	4
Output #4 crossing gate	☐
Remember last output status	Off
Startup delay	65ms
Input-Settings	
Enable sensor messages to Loconet	☑
Type of sensor messages sent	B2
Input trigger for inputes	☑
Input Trigger for switches	☑
Input trigger for local routes	☑
General	
Routes disabled	☐
Command Priority	Loconet
Comuter and/or Throttle Commands Accepted	Throttle(B0)/Computer(BD)
Factory reset	☐
Routes	
Route #1	999(t),998(c),500(t),250(c),200(c),300(t),400
Route #2	
Route #3	7(t),
Route #4	
Route #5	10(t),12(t),14(t),16(t),18(t),20(t),22(t),24(t),
Route #6	
Route #7	1(t),2(t),3(t),4(t),5(t),6(t),
Route #8	

This screen will show the DS64 modules.

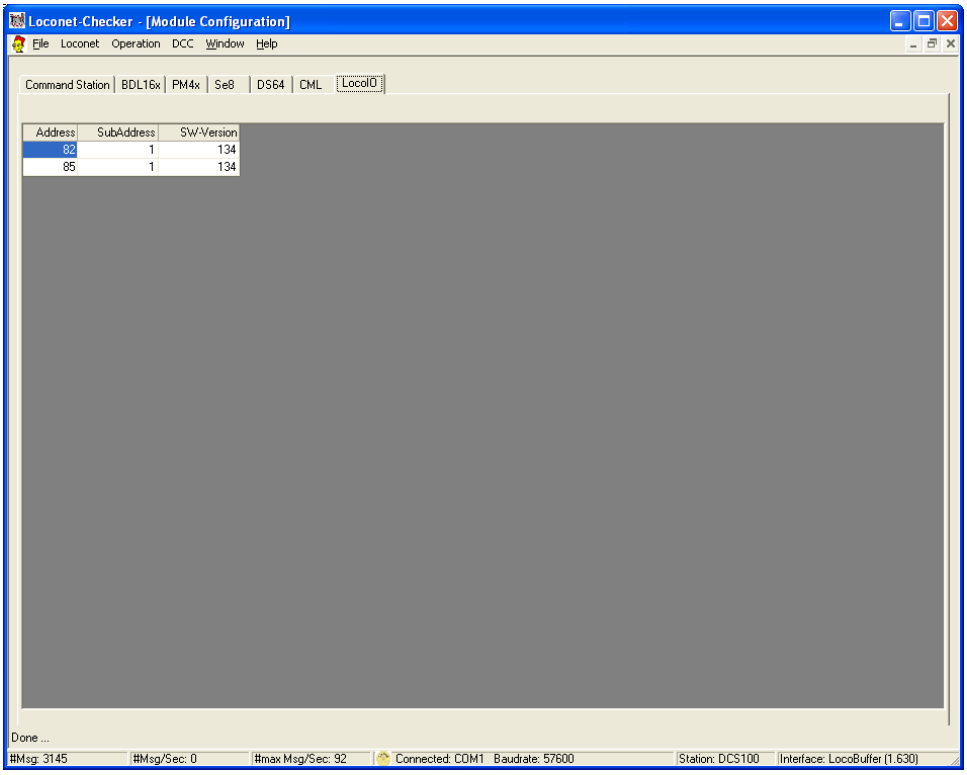


3.5.6 CML-Modules

This screen shows the basic data of the module from the company CML (http://www.cmlelectronics.co.uk/index.html). The SE messages itself are displayed in the BDL16x screen.



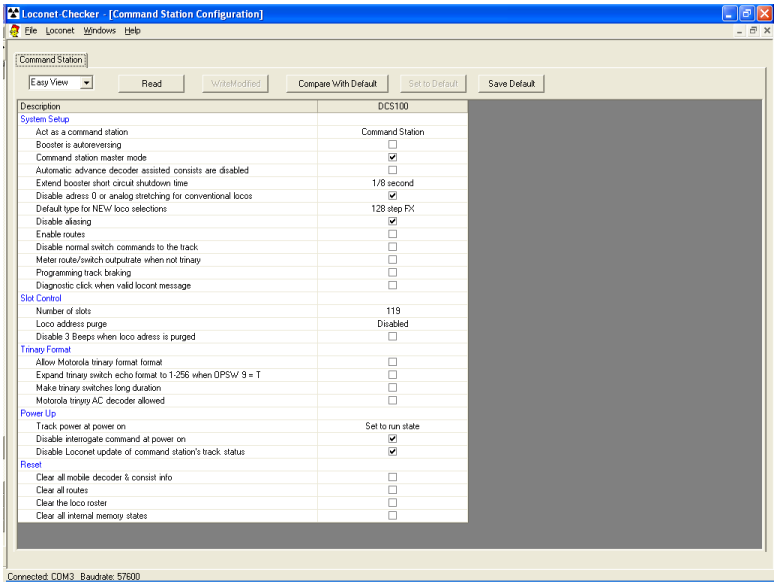
3.5.7 LocoIO-Modules



This screen shows the basic data of all LocoIO modules connected to the LocoNet.

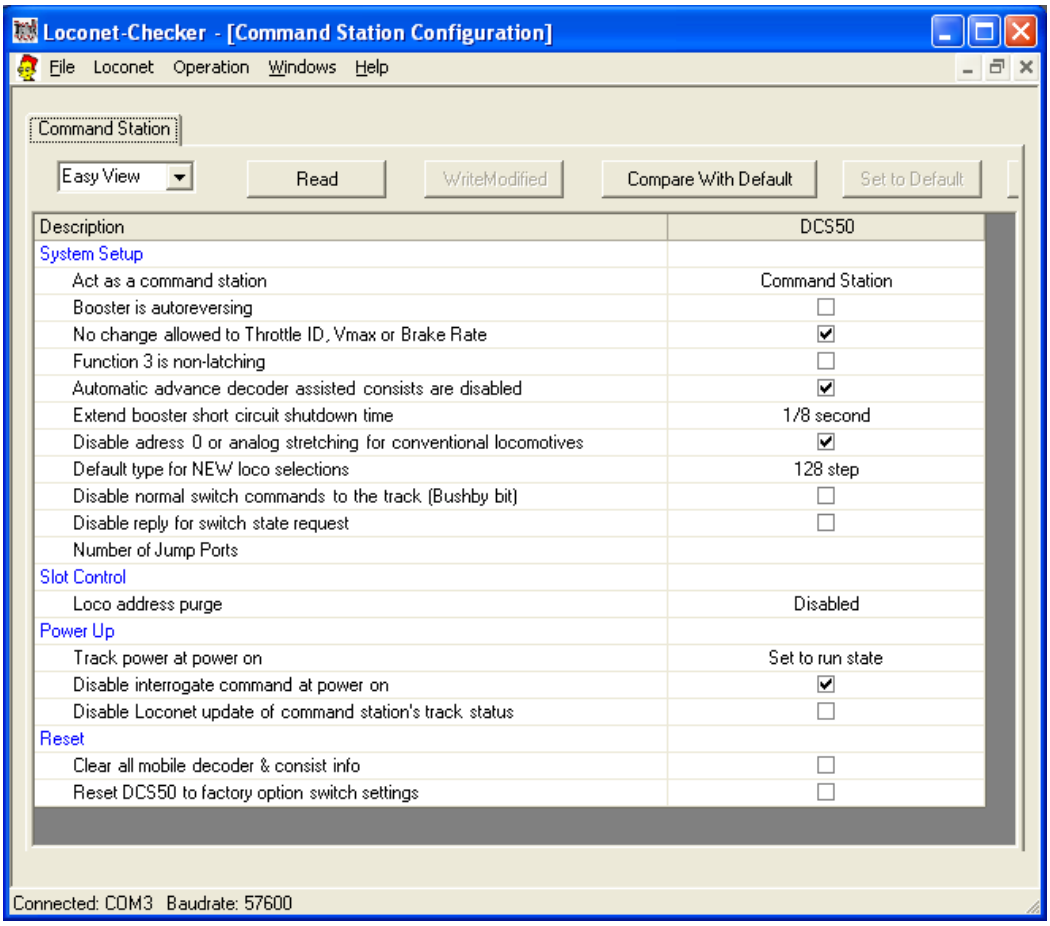
3.6 Command Station Configuration

3.6.1 Screen for a DCS100

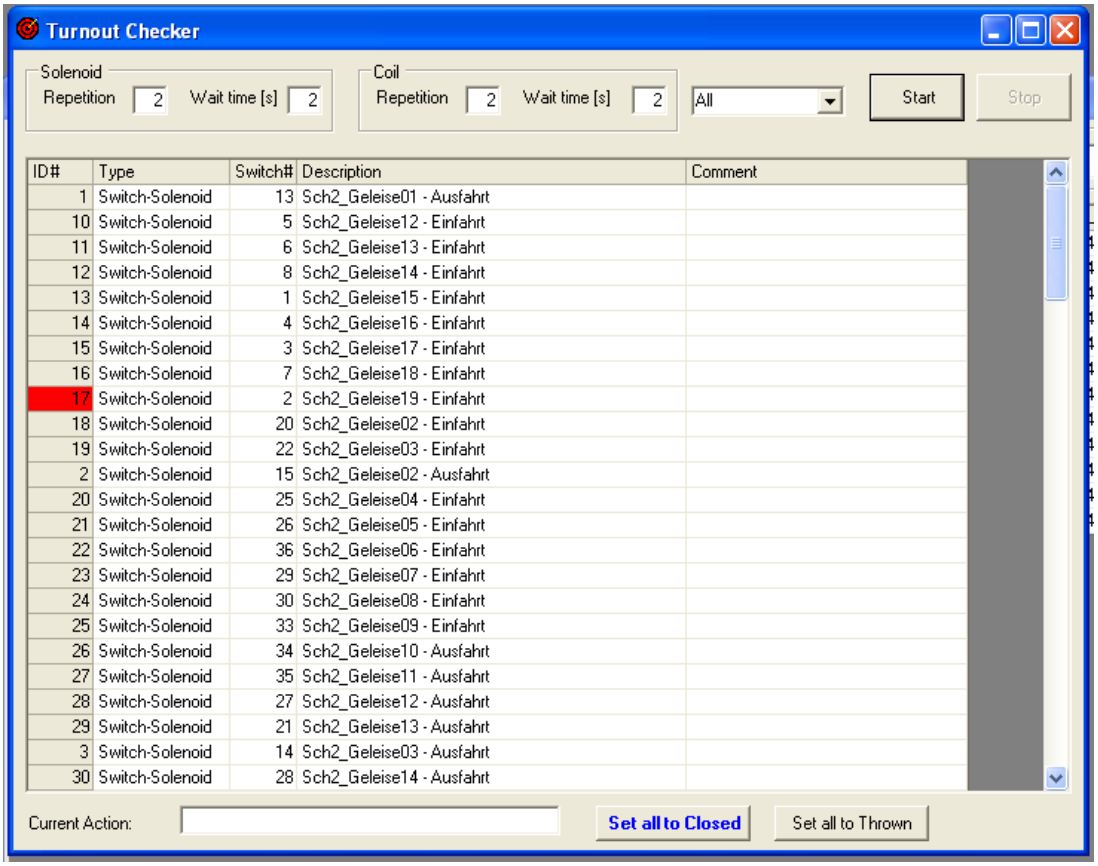


This menu entry only allows the changing of the command station configuration.

3.6.2 Screen for a DCS100



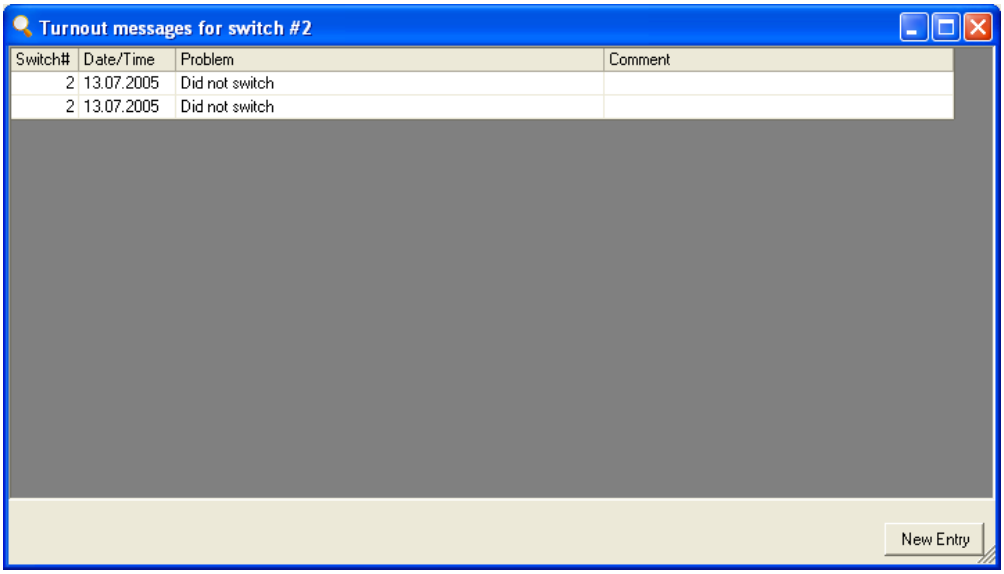
3.7 Turnout Checker



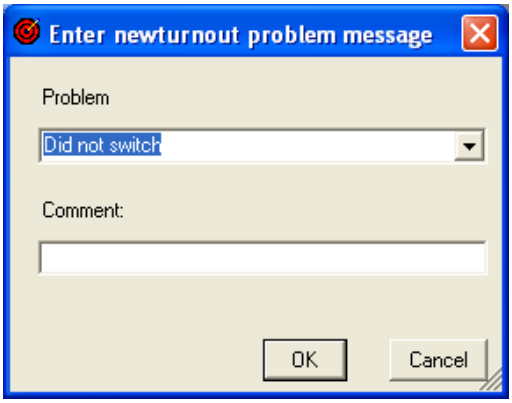
→ Turnouts with problems are marked “red”

Right Mouse click gives additional functions:

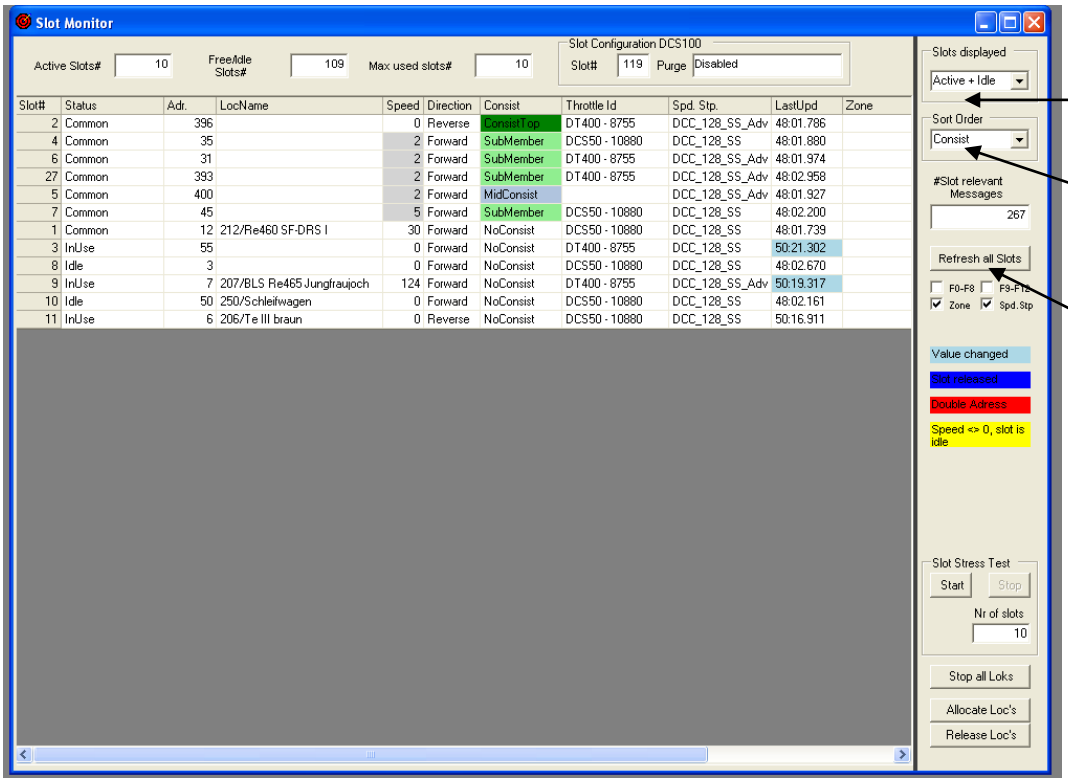
This screen shows the details for a switch (double click):



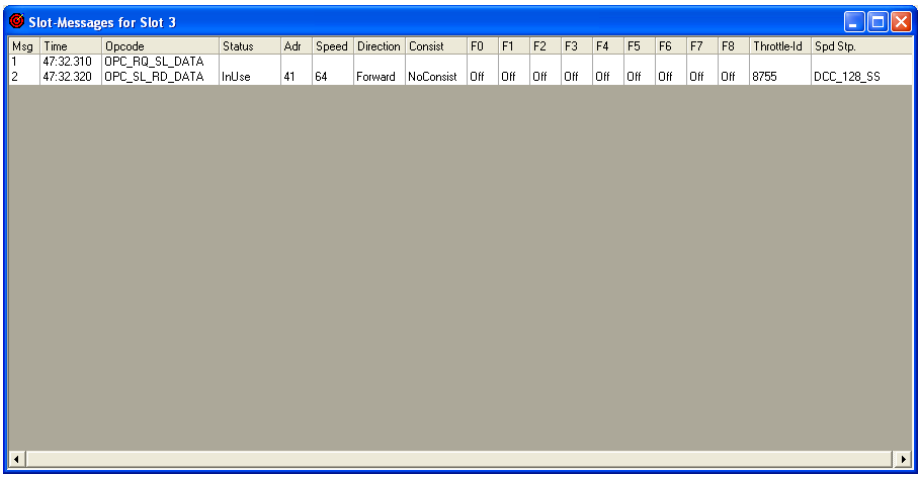
Enter a new problem for a turnout:



3.8 Slot Monitor

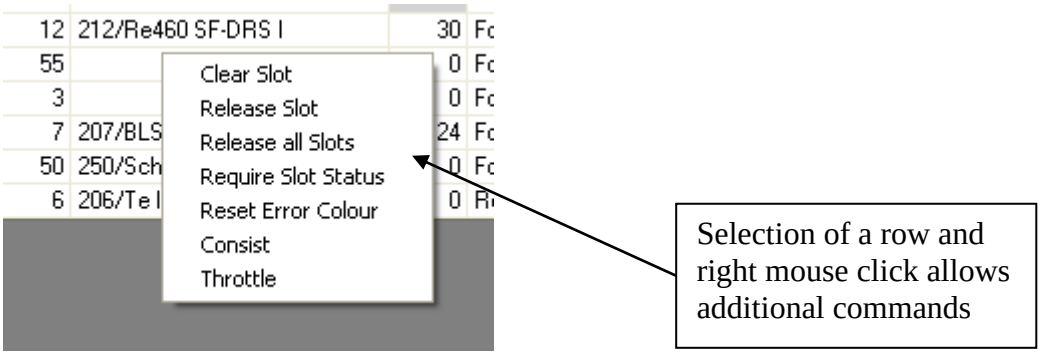


Slot#	Status	Adr.	LocName	Speed	Direction	Consist	Throttle Id	Spd. Stp.	LastUpd	Zone
2	Common	396		0	Reverse	ConsistTop	DT400 - 8755	DCC_128_SS_Adv	48:01.786	
4	Common	35		2	Forward	SubMember	DCS50 - 10880	DCC_128_SS	48:01.880	
6	Common	31		2	Forward	SubMember	DT400 - 8755	DCC_128_SS_Adv	48:01.974	
27	Common	393		2	Forward	SubMember	DT400 - 8755	DCC_128_SS_Adv	48:02.958	
5	Common	400		2	Forward	MidConsist		DCC_128_SS_Adv	48:01.927	
7	Common	45		5	Forward	SubMember	DCS50 - 10880	DCC_128_SS	48:02.200	
1	Common	12	212/Re460 SF-DRS I	30	Forward	NoConsist	DCS50 - 10880	DCC_128_SS	48:01.739	
3	InUse	55		0	Forward	NoConsist	DT400 - 8755	DCC_128_SS	50:21.302	
8	Idle	3		0	Forward	NoConsist	DCS50 - 10880	DCC_128_SS	48:02.670	
9	InUse	7	207/BLS Re465 Jungfraujoch	124	Forward	NoConsist	DT400 - 8755	DCC_128_SS_Adv	50:19.317	
10	Idle	50	250/Schleifwagen	0	Forward	NoConsist	DCS50 - 10880	DCC_128_SS	48:02.161	
11	InUse	6	206/Te III braun	0	Reverse	NoConsist	DCS50 - 10880	DCC_128_SS	50:16.911	

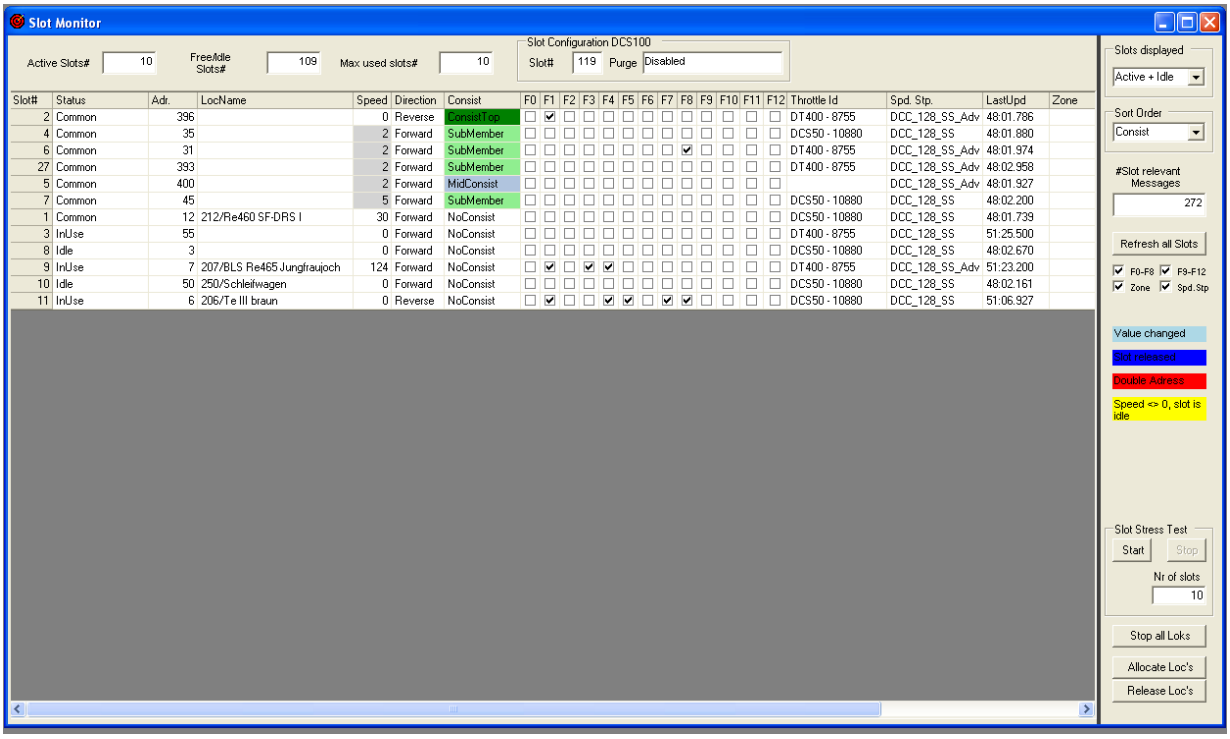


Msg	Time	Opcode	Status	Adr	Speed	Direction	Consist	F0	F1	F2	F3	F4	F5	F6	F7	F8	Throttle-Id	Spd Stp.
1	47:32.310	OPC_RQ_SL_DATA																
2	47:32.320	OPC_SL_RD_DATA	InUse	41	64	Forward	NoConsist	Off	Off	Off	Off	Off	Off	Off	Off	Off	8755	DCC_128_SS

Detailed message for one specific slot (with double click)

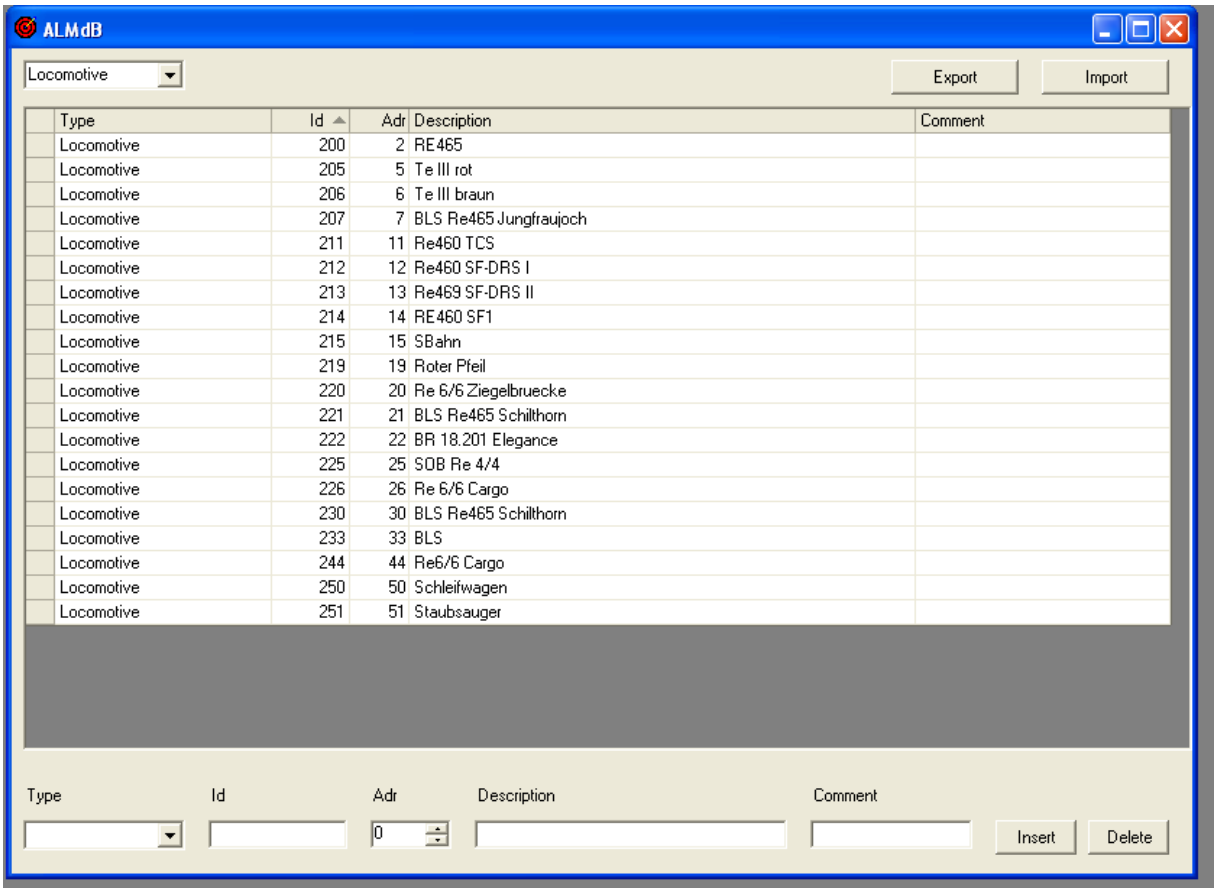


This shows a slot screen, with the sorting for consists. Consisted slots are shown in a special colour.



Slot#	Status	Adr.	LocName	Speed	Direction	Consist	F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	Throttle Id	Spd. Stp.	LastUpd	Zone
2	Common	396		0	Reverse	ConsistTop	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DT400 - 8755	DCC_128_SS_Adv	48:01.786	
4	Common	35		2	Forward	SubMember	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DCS50 - 10880	DCC_128_SS	48:01.880	
6	Common	31		2	Forward	SubMember	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	DT400 - 8755	DCC_128_SS_Adv	48:01.974	
27	Common	393		2	Forward	SubMember	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DT400 - 8755	DCC_128_SS_Adv	48:02.958	
5	Common	400		2	Forward	MidConsist	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		DCC_128_SS_Adv	48:01.927	
7	Common	45		5	Forward	SubMember	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DCS50 - 10880	DCC_128_SS	48:02.200	
1	Common	12	212/Re460 SF-DRS I	30	Forward	NoConsist	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DCS50 - 10880	DCC_128_SS	48:01.739	
3	InUse	55		0	Forward	NoConsist	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DT400 - 8755	DCC_128_SS	51:25.500	
8	Idle	3		0	Forward	NoConsist	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DCS50 - 10880	DCC_128_SS	48:02.670	
9	InUse	7	207/BLS Re465 Jungfraujoch	124	Forward	NoConsist	☐	☑	☐	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	DT400 - 8755	DCC_128_SS_Adv	51:23.200	
10	Idle	50	250/Schleifwagen	0	Forward	NoConsist	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	DCS50 - 10880	DCC_128_SS	48:02.161	
11	InUse	6	206/Te III braun	0	Reverse	NoConsist	☐	☑	☐	☐	☑	☑	☐	☑	☑	☐	☐	☐	☐	DCS50 - 10880	DCC_128_SS	51:06.927	

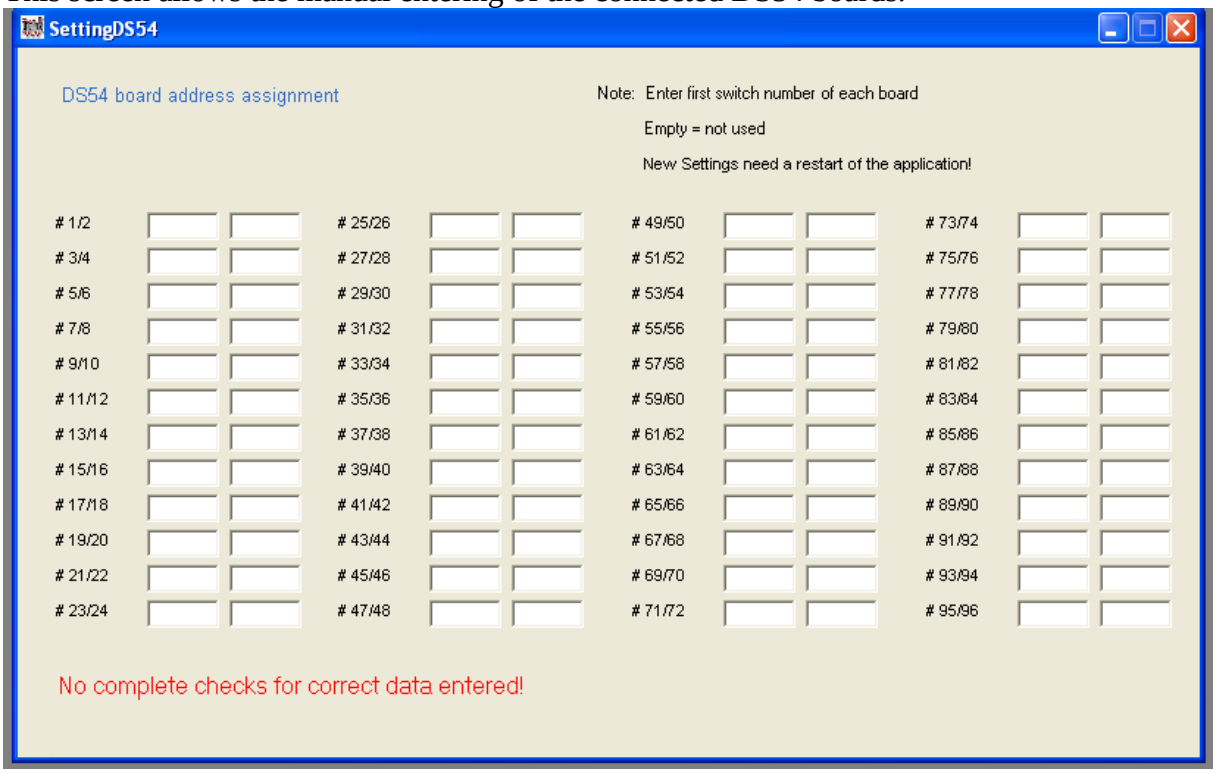
3.9 ALM Editor



This editor allows the entering of “text” for switch numbers, zone number, locomotives, etc. The names are then displayed in the slot monitor or other screens.

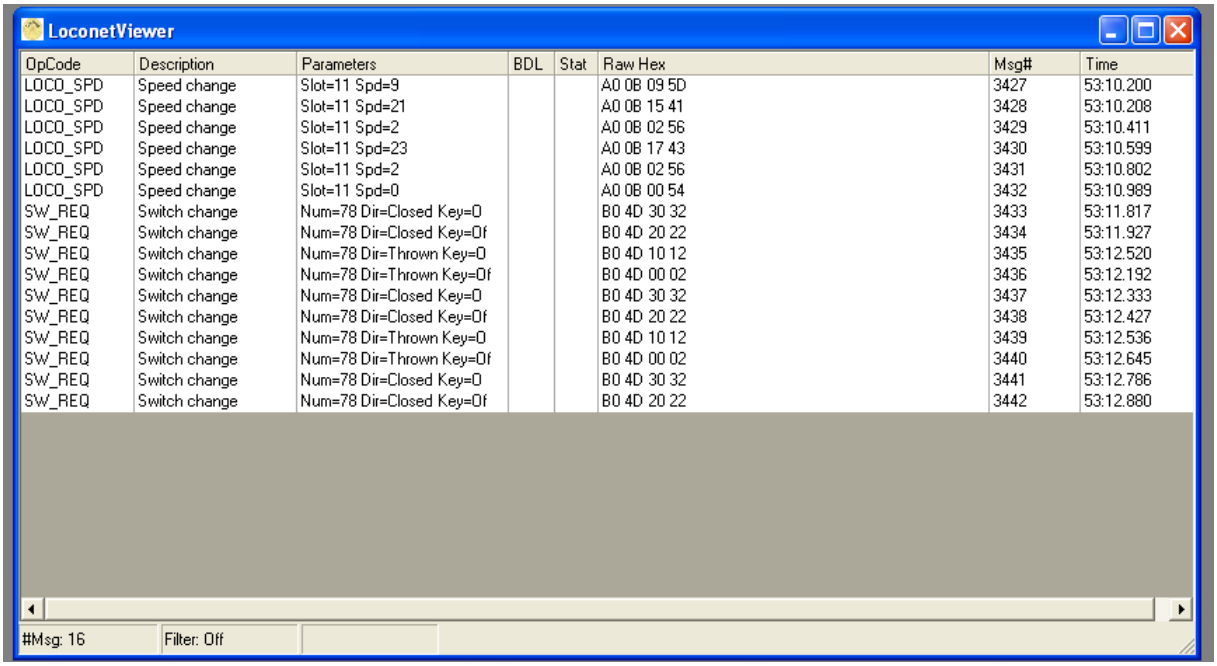
3.10 DS54

This screen allows the manual entering of the connected DS54 boards.

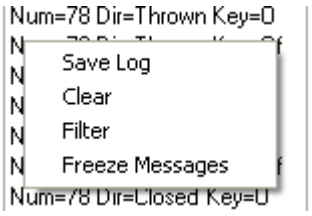


3.12 Loconet-Viewer

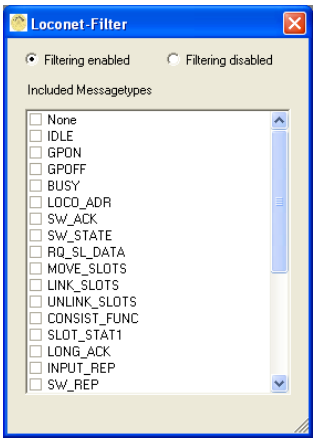
This screen allows the display of the ongoing LocoNet messages. There is a possibility for filtering as well.

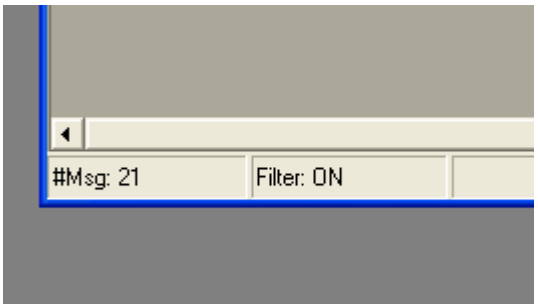


This shows the additional commands available after a right mouse click:

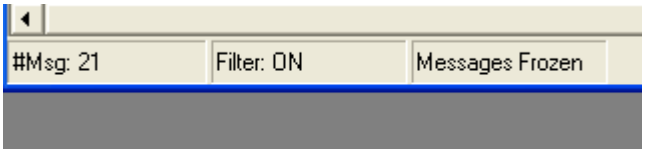


Here the detail screen for filtering:





The status bar indicates if filtering is enabled

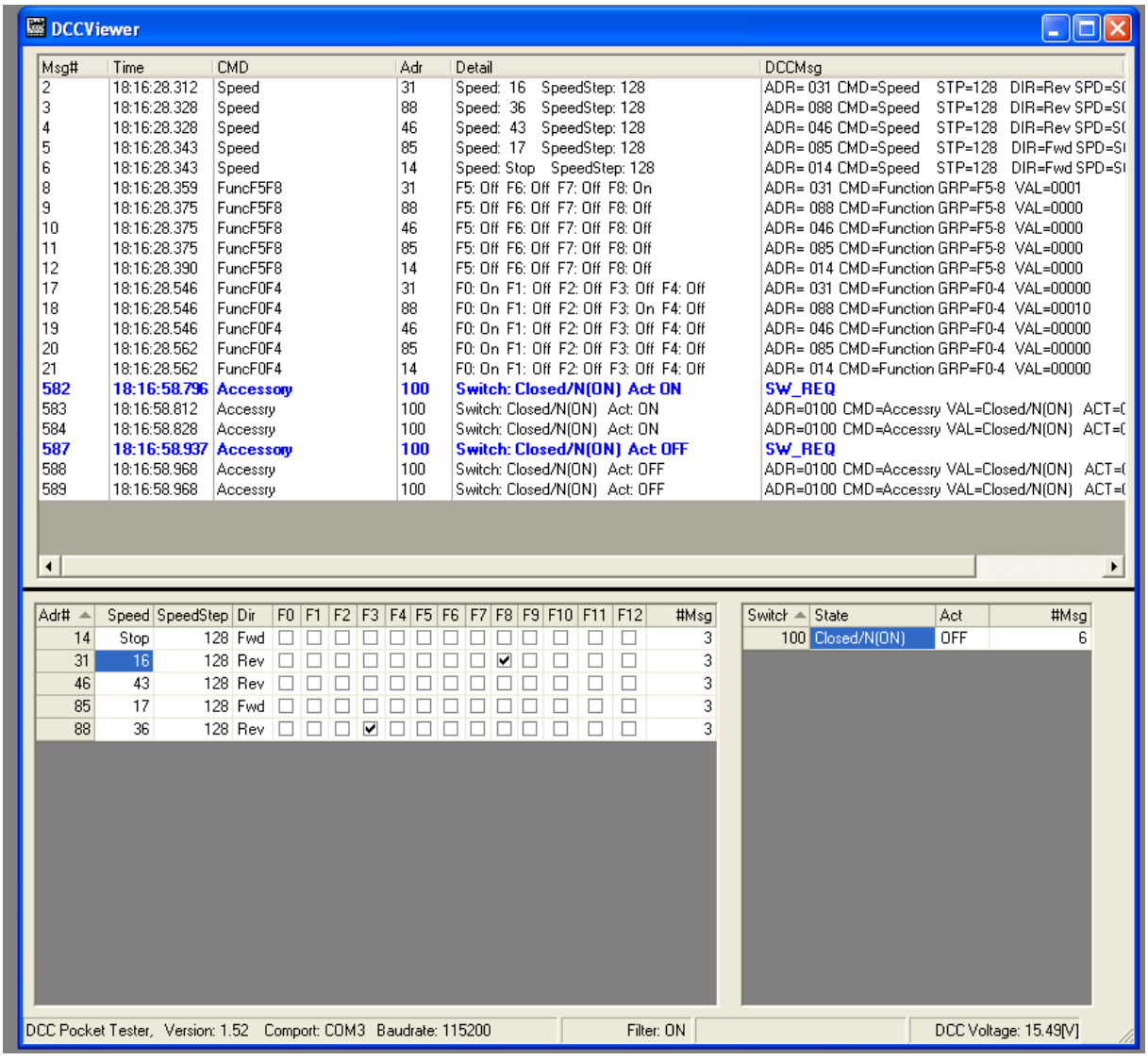


The status bar also indicates, if the LocoNet messages are frozen (no new messages are displayed)

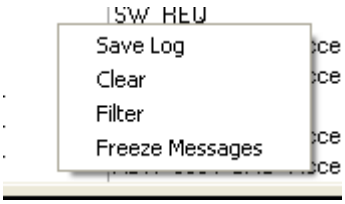
3.12 DCC-Viewer

Together with the DCC-Pocket Tester from PRICOM ((http://www.pricom.com/Trains/DCCTester.html) the DCC messages are displayed as well. Even the LocoNet messages and the DCC messages can be displayed at the same time together.

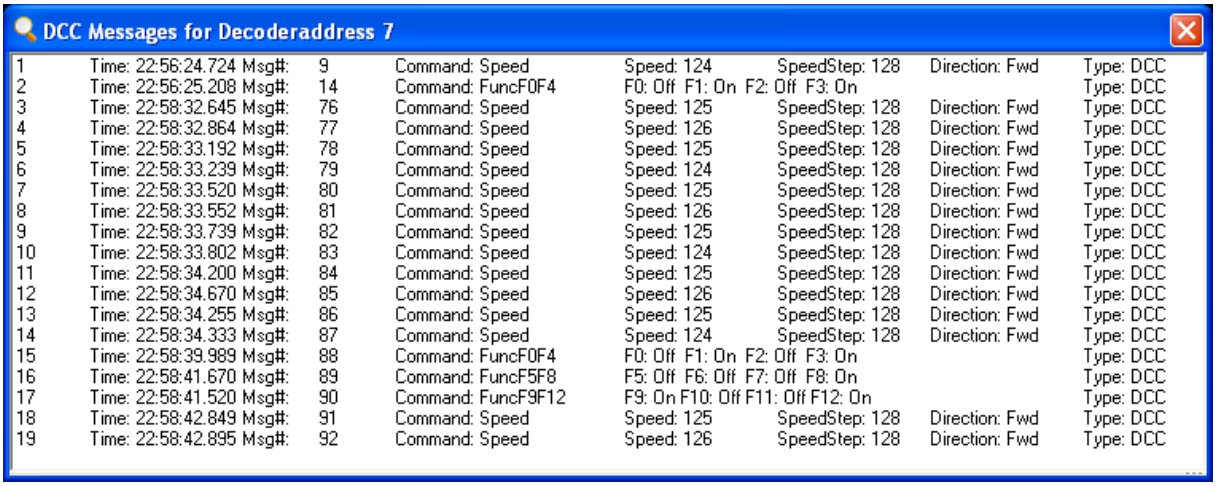
The DCC-Viewer can run alone without a LocoNet-interface.



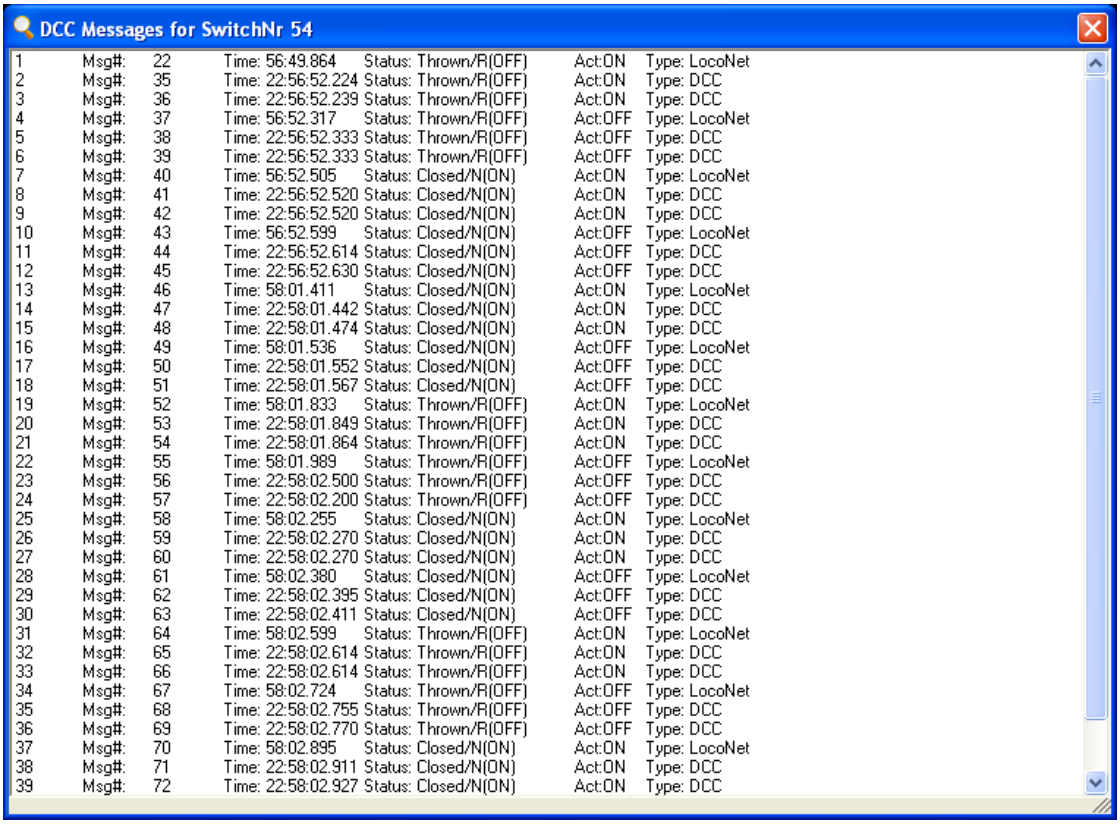
Note: There is detailed screen for “Decoder-Commands” and “Accessory-Commands”



These shows the detailed messages for a decoder (double click):

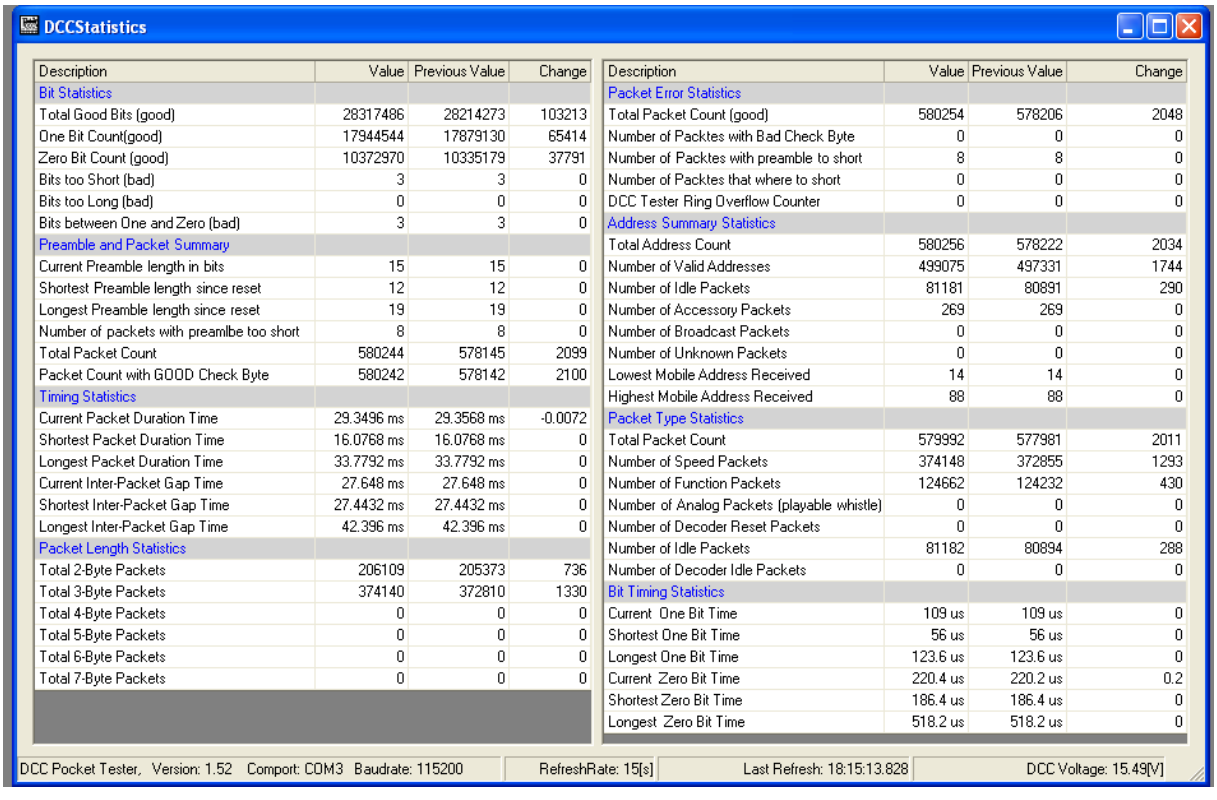


These shows the detailed messages for a switch (double click):



DCC Messages for SwitchNr 54

1	Msg#:	22	Time: 56:49.864	Status: Thrown/R(OFF)	Act:ON	Type: LocoNet
2	Msg#:	35	Time: 22:56:52.224	Status: Thrown/R(OFF)	Act:ON	Type: DCC
3	Msg#:	36	Time: 22:56:52.239	Status: Thrown/R(OFF)	Act:ON	Type: DCC
4	Msg#:	37	Time: 56:52.317	Status: Thrown/R(OFF)	Act:OFF	Type: LocoNet
5	Msg#:	38	Time: 22:56:52.333	Status: Thrown/R(OFF)	Act:OFF	Type: DCC
6	Msg#:	39	Time: 22:56:52.333	Status: Thrown/R(OFF)	Act:OFF	Type: DCC
7	Msg#:	40	Time: 56:52.505	Status: Closed/N(ON)	Act:ON	Type: LocoNet
8	Msg#:	41	Time: 22:56:52.520	Status: Closed/N(ON)	Act:ON	Type: DCC
9	Msg#:	42	Time: 22:56:52.520	Status: Closed/N(ON)	Act:ON	Type: DCC
10	Msg#:	43	Time: 56:52.599	Status: Closed/N(ON)	Act:OFF	Type: LocoNet
11	Msg#:	44	Time: 22:56:52.614	Status: Closed/N(ON)	Act:OFF	Type: DCC
12	Msg#:	45	Time: 22:56:52.630	Status: Closed/N(ON)	Act:OFF	Type: DCC
13	Msg#:	46	Time: 58:01.411	Status: Closed/N(ON)	Act:ON	Type: LocoNet
14	Msg#:	47	Time: 22:58:01.442	Status: Closed/N(ON)	Act:ON	Type: DCC
15	Msg#:	48	Time: 22:58:01.474	Status: Closed/N(ON)	Act:ON	Type: DCC
16	Msg#:	49	Time: 58:01.536	Status: Closed/N(ON)	Act:OFF	Type: LocoNet
17	Msg#:	50	Time: 22:58:01.552	Status: Closed/N(ON)	Act:OFF	Type: DCC
18	Msg#:	51	Time: 22:58:01.567	Status: Closed/N(ON)	Act:OFF	Type: DCC
19	Msg#:	52	Time: 58:01.833	Status: Thrown/R(OFF)	Act:ON	Type: LocoNet
20	Msg#:	53	Time: 22:58:01.849	Status: Thrown/R(OFF)	Act:ON	Type: DCC
21	Msg#:	54	Time: 22:58:01.864	Status: Thrown/R(OFF)	Act:ON	Type: DCC
22	Msg#:	55	Time: 58:01.989	Status: Thrown/R(OFF)	Act:OFF	Type: LocoNet
23	Msg#:	56	Time: 22:58:02.500	Status: Thrown/R(OFF)	Act:OFF	Type: DCC
24	Msg#:	57	Time: 22:58:02.200	Status: Thrown/R(OFF)	Act:OFF	Type: DCC
25	Msg#:	58	Time: 58:02.255	Status: Closed/N(ON)	Act:ON	Type: LocoNet
26	Msg#:	59	Time: 22:58:02.270	Status: Closed/N(ON)	Act:ON	Type: DCC
27	Msg#:	60	Time: 22:58:02.270	Status: Closed/N(ON)	Act:ON	Type: DCC
28	Msg#:	61	Time: 58:02.380	Status: Closed/N(ON)	Act:OFF	Type: LocoNet
29	Msg#:	62	Time: 22:58:02.395	Status: Closed/N(ON)	Act:OFF	Type: DCC
30	Msg#:	63	Time: 22:58:02.411	Status: Closed/N(ON)	Act:OFF	Type: DCC
31	Msg#:	64	Time: 58:02.599	Status: Thrown/R(OFF)	Act:ON	Type: LocoNet
32	Msg#:	65	Time: 22:58:02.614	Status: Thrown/R(OFF)	Act:ON	Type: DCC
33	Msg#:	66	Time: 22:58:02.614	Status: Thrown/R(OFF)	Act:ON	Type: DCC
34	Msg#:	67	Time: 58:02.724	Status: Thrown/R(OFF)	Act:OFF	Type: LocoNet
35	Msg#:	68	Time: 22:58:02.755	Status: Thrown/R(OFF)	Act:OFF	Type: DCC
36	Msg#:	69	Time: 22:58:02.770	Status: Thrown/R(OFF)	Act:OFF	Type: DCC
37	Msg#:	70	Time: 58:02.895	Status: Closed/N(ON)	Act:ON	Type: LocoNet
38	Msg#:	71	Time: 22:58:02.911	Status: Closed/N(ON)	Act:ON	Type: DCC
39	Msg#:	72	Time: 22:58:02.927	Status: Closed/N(ON)	Act:ON	Type: DCC

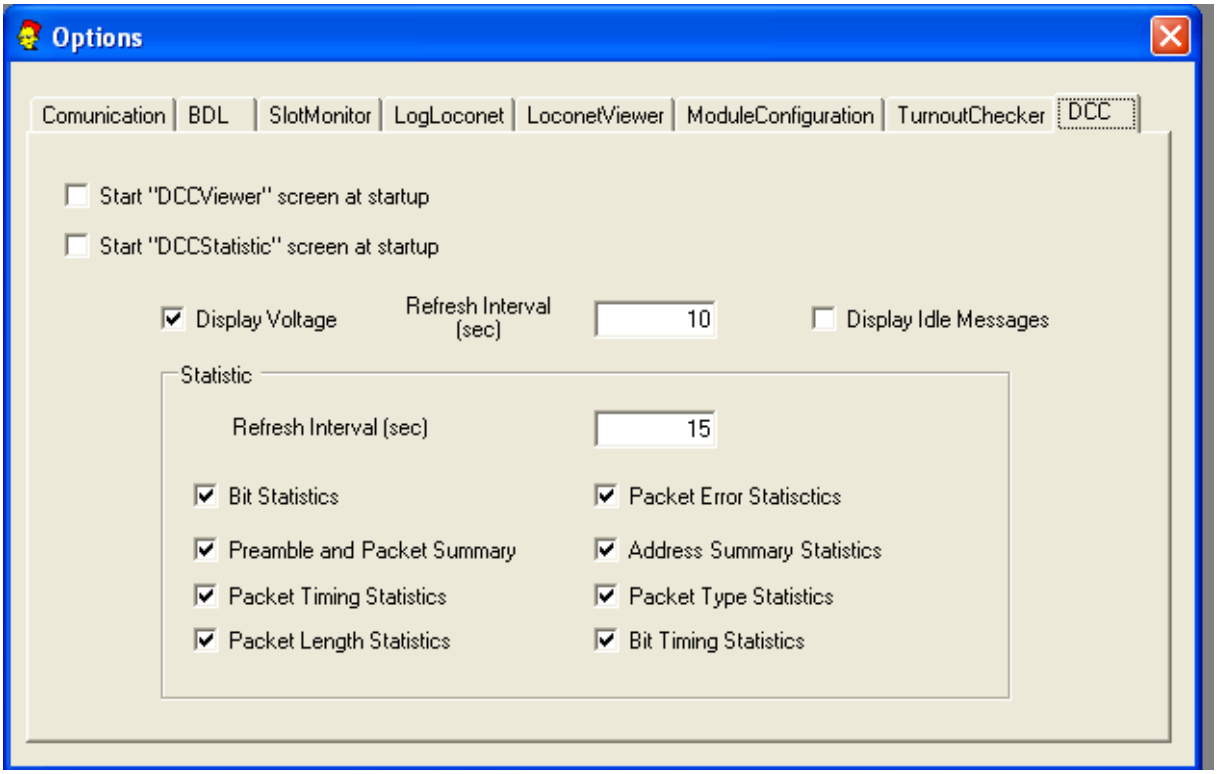


DCCStatistics

Description	Value	Previous Value	Change
Bit Statistics			
Total Good Bits (good)	28317486	28214273	103213
One Bit Count(good)	17944544	17879130	65414
Zero Bit Count (good)	10372970	10335179	37791
Bits too Short (bad)	3	3	0
Bits too Long (bad)	0	0	0
Bits between One and Zero (bad)	3	3	0
Preamble and Packet Summary			
Current Preamble length in bits	15	15	0
Shortest Preamble length since reset	12	12	0
Longest Preamble length since reset	19	19	0
Number of packets with preamlbe too short	8	8	0
Total Packet Count	580244	578145	2099
Packet Count with GOOD Check Byte	580242	578142	2100
Timing Statistics			
Current Packet Duration Time	29.3496 ms	29.3568 ms	-0.0072
Shortest Packet Duration Time	16.0768 ms	16.0768 ms	0
Longest Packet Duration Time	33.7792 ms	33.7792 ms	0
Current Inter-Packet Gap Time	27.648 ms	27.648 ms	0
Shortest Inter-Packet Gap Time	27.4432 ms	27.4432 ms	0
Longest Inter-Packet Gap Time	42.396 ms	42.396 ms	0
Packet Length Statistics			
Total 2-Byte Packets	206109	205373	736
Total 3-Byte Packets	374140	372810	1330
Total 4-Byte Packets	0	0	0
Total 5-Byte Packets	0	0	0
Total 6-Byte Packets	0	0	0
Total 7-Byte Packets	0	0	0

Description	Value	Previous Value	Change
Packet Error Statistics			
Total Packet Count (good)	580254	578206	2048
Number of Packtes with Bad Check Byte	0	0	0
Number of Packtes with preamble to short	8	8	0
Number of Packtes that where to short	0	0	0
DCC Tester Ring Overflow Counter	0	0	0
Address Summary Statistics			
Total Address Count	580256	578222	2034
Number of Valid Addresses	499075	497331	1744
Number of Idle Packets	81181	80891	290
Number of Accessory Packets	269	269	0
Number of Broadcast Packets	0	0	0
Number of Unknown Packets	0	0	0
Lowest Mobile Address Received	14	14	0
Highest Mobile Address Received	88	88	0
Packet Type Statistics			
Total Packet Count	579992	577981	2011
Number of Speed Packets	374148	372855	1293
Number of Function Packets	124662	124232	430
Number of Analog Packets (playable whistle)	0	0	0
Number of Decoder Reset Packets	0	0	0
Number of Idle Packets	81182	80894	288
Number of Decoder Idle Packets	0	0	0
Bit Timing Statistics			
Current One Bit Time	109 us	109 us	0
Shortest One Bit Time	56 us	56 us	0
Longest One Bit Time	123.6 us	123.6 us	0
Current Zero Bit Time	220.4 us	220.2 us	0.2
Shortest Zero Bit Time	186.4 us	186.4 us	0
Longest Zero Bit Time	518.2 us	518.2 us	0

DCC Pocket Tester, Version: 1.52 Comport: COM3 Baudrate: 115200 | RefreshRate: 15[s] | Last Refresh: 18:15:13.828 | DCC Voltage: 15.49[V]


Options
Comunication
BDL
SlotMonitor
LogLoconet
LoconetViewer
ModuleConfiguration
TurnoutChecker
DCC
Start "DCCViewer" screen at startup
Start "DCCStatistic" screen at startup
Display Voltage
Refresh Interval (sec)
10
Display Idle Messages
Statistic
Refresh Interval (sec)
15
Bit Statistics
Packet Error Statisctics
Preamble and Packet Summary
Address Summary Statistics
Packet Timing Statistics
Packet Type Statistics
Packet Length Statistics
Bit Timing Statistics