

Paper for Consideration by ENC WG**A new template for S-64 display tests**

Submitted by:	SevenCs GmbH (Holger Bothien)
Executive Summary:	Proposes a new template for S-64 display tests
Related Documents:	S-64 Ed 3.0.3
Related Projects:	

Introduction / Background

This paper describes problems that exist with the description of the display tests in S-64 and proposes a solution to improve this. The main goal is to increase the user-friendliness of the standard and to eliminate possible ambiguities. It also proposes some other improvements which should be considered when a new version of S-64 will be created.

Analysis/Discussion

In S-64, a template exists for each display test in chapter 3 that describes the test. This template contains a section for the setup where the display settings are defined that must be used to run the test and achieve the desired result.

Although the existing templates are a great improvement to older versions of the standard there are a few points that can and should be improved.

- The setup sections are not complete.
The setup sections contain only the changes to the default settings which are described somewhere in the preamble of the standard, and they are not always unambiguous and often not complete.
- Many setup sections just contain references to another test which makes the standard hard to use since one must scroll up and down all the time. This is also a possible source of errors when it comes to maintenance. A change in one place may have side effects to all other places where it is referenced.
- Many tests have so called actions. Those actions are not identifiable which makes the communication with third parties like OEMs or type approval authorities difficult.
- The quality of the plots is sometimes not good due to the embedding process in a Word document.

Conclusions

We have developed a new template for the display tests that completely describes the test including all display settings. This makes each test independent from other tests. The template is provided in Annex A to this proposal. Since all information for a single test are now in one place, they are much easier to obtain. It will also improve the communication with involved parties including type approval authorities. It reduces possible misinterpretation and wrong implementations.

Tests that contain 'actions' should be separated to single tests. This makes them identifiable and easier to be referenced. Since most of the actions have a separate plot anyway, this will not increase the volume of the document significantly.

The plots should be in addition to the printed document also made available as image files, preferably in PNG or JPEG format. The printed version is then only an overview, but the normative reference would be the image file. It would have the original size from the system where it was created.

Recommendations

We recommend the following for all tests in the chapter 3 of S-64.

- Use the proposed template.
- Split tests with actions into separate tests.
- Create and provide the plots as image file in addition to the printed version.

We do not propose any new tests or modifications to the existing test. It is rather an improvement on how the tests are documented. On the other hand, it is a rather large piece of work, and it may need endorsement of the HSSC.

Other improvements to S-64 are not covered by this proposal but may be proposed separately. All such proposals should be considered in a new work package. This includes changes to the test data as well.

The improvements of S-64 should be also taken into consideration for a new test standard for S-100 (i.e. S-164).

Action Required of [ENC WG]

The ENC-WG is invited to:

- a. endorse the paper
- b. discuss the topics
- c. conclude on the action list

Annex A

Test Reference			IHO Reference	
Test Description				
Loaded Data				
Path			Dataset	
Display Category		Independent Mariner's Selections		
Standard		Accuracy		<input type="checkbox"/>
Contour Values		Highlight date dependent		<input type="checkbox"/>
Safety Contour		Highlight info		<input type="checkbox"/>
Safety Depth		Highlight document		<input type="checkbox"/>
Deep Contour		Show full light lines		<input type="checkbox"/>
Shallow Contour		SCAMIN off		<input type="checkbox"/>
Palette		Shallow pattern		<input type="checkbox"/>
Day		Shallow water dangers		<input type="checkbox"/>
Point Lookup Table		Unknown objects		<input type="checkbox"/>
Paper Chart Symbols		Update review		<input type="checkbox"/>
Area Lookup Table		Contour label		<input type="checkbox"/>
Symbolized Boundaries		Four shades		<input type="checkbox"/>
Date Dependent Objects		National language		<input type="checkbox"/>
Mode	Off			
Start Date	30 July 2021			
End Date	30 July 2021	Text Groups		
Display		Important text		<input type="checkbox"/>
Centre		Names		<input type="checkbox"/>
Scale		Light description		<input type="checkbox"/>
Orientation		All other text		<input type="checkbox"/>
Notes				
Viewing Group Layers				
Standard Display			Other	
Drying lines		<input type="checkbox"/>	Spot soundings	<input type="checkbox"/>
Buoys, beacons, structures		<input type="checkbox"/>	Submarine cables and pipelines	<input type="checkbox"/>
Lights		<input type="checkbox"/>	All isolated dangers	<input type="checkbox"/>
Boundaries and limits		<input type="checkbox"/>	Magnetic variation	<input type="checkbox"/>
Prohibited and restricted areas		<input type="checkbox"/>	Depth contours	<input type="checkbox"/>
Chart scale boundaries		<input type="checkbox"/>	Seabed	<input type="checkbox"/>
Cautionary notes		<input type="checkbox"/>	Tidal	<input type="checkbox"/>
Ships' routing systems and ferry routes		<input type="checkbox"/>	Miscellaneous	<input type="checkbox"/>
Archipelagic sea lanes		<input type="checkbox"/>		
Miscellaneous		<input type="checkbox"/>		
Results				
Plot				

Notes on the template:

Test Reference: A unique reference within the S-64 standard

IHO Reference: One or more references to other IHO standards, usually to S-52

Test Description: Textual description of the test including the scope and goal of the test.

Loaded Data: A list of datasets that are loaded to make the required image. The path and dataset name should uniquely identify the dataset within the S-64 Test Data Package

Display Category: Contains a content control to choose a value from

- Displaybase
- Standard
- Other
- Selected Viewing Group Layers

If the last option is chosen, the section **Viewing Group Layers** must be filled. Otherwise, the section **Viewing Group Layers** should be omitted.

Contour Values: The values must be given in Metres. If the mariner's selection 'Four shades' is not selected, the values for Deep Contour and Shallow Contour can be omitted and given as n/a.

Palette: Contains a content control to choose a value from

- Day
- Dusk
- Night

Point Lookup Table: Contains a content control with the values

- Simplified Symbols
- Paper Chart Symbols

Area Lookup Table: Contains a content control with the values

- Plain Boundaries
- Symbolized Boundaries

Note that although the last two options are in the list of Independent Mariner's Selections, here they are in a separate section because they cannot be controlled by a simple tick box.

Date Dependent Objects:

Four modes can be selected

1. Off – all date dependent objects will be shown
2. Later than start – Show all objects for which the interval for DATSTA-DATEND or PERSTA-PEREND overlaps the interval beginning with Start Date
3. Before End – Show all objects for which the interval for DATSTA-DATEND or PERSTA-PEREND overlaps the interval ending with End Date
4. From Start to End – Show all objects for which the interval for DATSTA-DATEND or PERSTA-PEREND overlaps the interval beginning with Start Date and ending with End Date

If Start Date or End Date do not apply to the mode, the value should be omitted.

Display: The settings to define the viewport of the plot.

Centre – The geographic position of the centre of the plot.

Scale – The scale at the centre position. Note that the scale calculation may differ from system to system due to different hardware configuration and projection used.

Orientation – The upright direction of the display in degrees clockwise from true north. Although currently no tests require a different direction than 0° the parameter is part of the definition.

Independent Mariner's Selections: A set of selections as defined by S-52 Preslib Ed. 4.0.3 – 10.3.4.4

Text Groups: A set of text groups as defined by S-52 Preslib Ed. 4.0.3 – 14.5

Notes: Any additional notes to setup the test.

Viewing Group Layers: If in the section **Display Category** the value '*Selected Viewing Group Layers*' has been selected, the individual set of viewing group layers can be selected here. The selection is based on S-52 Preslib Ed. 4.0.3 – 14.3.

In the case that in the section **Display Category** one of the values '*Displaybase*', '*Standard*', or '*Other*' has been chosen, the entire section **Viewing Group Layers** should be omitted.

Results: The name (including the path) of the plot image file as well as a printout of the plot. Additionally, a textual description of the result can be added here.