



# Additional Military Layers Portrayal Specification

Version 3.0.0



Guidance Document, 20161104

## Background

Additional Military Layers (AML) are a set of geospatial data product specifications defined by NATO STANAG 7170. These specifications cover a range of vector and gridded geospatial information requirements. AML products are created and used within a variety of systems including Warship ECDIS (STANAG 4564) and C2 systems.

To date there has been no published display specification for AML products, resulting in inconsistent and sometimes unhelpful display in end user systems. It had been envisaged that each warfare community would develop its own symbology but this has not occurred. Although this specification does not prohibit other tailored specifications being developed where required. Recognising this deficiency, the NATO group which develops and maintains AML specifications, the Geospatial Maritime Working Group (GMWG), has developed an AML Portrayal Specification.

This work has focussed on supporting WECDIS systems as one means to display AML products, however, the content may be applicable to other systems.

## Specification Description

The AML Portrayal Specification defines symbols and rules for the display of vector AML datasets and supports AML 1.0, 2.1 and 3.0 vector products. It builds on the IHO S-52 Edition 6.1 standard and the Preslib 4.0.

Additional symbols have been added where required, and additional viewing groups created to allow users to customize the display to meet their needs.

The priority for symbol sources was

1. S-52
2. Geosym (MIL-89045A)
3. MIL-STD-2525C resp. APP-06(C)
4. Other sources / own creation

No additional Conditional Symbology Procedures as defined in S-52 are included although those in the S-52 Preslib 4.0 are referenced.

Unlike ENC display no simplified symbology is included. Generally colours have been used as follows within the specification;

- a. Environmental: green
- b. Operational: red
- c. Air: blue
- d. Seabed: brown

Where appropriate other symbology specifications have been used as the source for symbols and rules. These include IHO S-411, NATO APP-6, MIL STD 2525 and MIL DTL 89045A.

The specification is documented as a .dai file which contains the look up tables and symbols. In addition an Excel spreadsheet provides a human readable version of the specification. A number of additional viewing groups have been used beyond those defined in S-52 these are also listed within the Excel spreadsheet and should be implemented in software using the names shown.

The specification carries no security markings.

The specification is available on request from GMWG via the GMWG Secretariat ([GMWGSecretariat@ukho.gov.uk](mailto:GMWGSecretariat@ukho.gov.uk)). It is not made openly available as significant content is common to the IHO S-52 Presentation Library which has to be purchased. The specification will be released to organisations which hold the current presentation library.

## **Implementation**

This specification is currently provided as a .dai file which is aimed at supporting implementation within WECDIS systems. However, users of the specification may use it to develop other content such as OGC Styled Layer Descriptors (SLD) to support web services.

## **Testing**

Due to its basis in S-52, the IHO Test Datasets for ECDIS S-64 Edition 3.0.1 provides a means to test S-52 display and therefore systems which pass these tests should support this specification. A specific test standard may be developed to accompany this specification in the future. Existing AML test data available on the UKHO website may also be useful for testing purposes.

## **Maintenance**

GMWG welcome feedback on this specification and further versions will be prepared to reflect feedback received and to enhance the specification. This may also include extending this specification to cater for gridded AML data products.

Enquiries should be directed to [GMWGSecretariat@ukho.gov.uk](mailto:GMWGSecretariat@ukho.gov.uk)

## **Useful References**

**NATO** – Accessible via the NATO Standardisation Office (NSO) web portal.

1. STANAG 7170 - ADDITIONAL MILITARY LAYERS (AML) – DIGITAL GEOSPATIAL DATA PRODUCTS
2. STANAG 4564 - WARSHIP ELECTRONIC CHART DISPLAY INFORMATION SYSTEM (WECDIS)
3. AML Product Specifications and Test Data  
<http://www.ukho.gov.uk/Defence/AML/Pages/Home.aspx>

## IHO

4. S-52 Edition 6.1 [http://www.iho.int/iho\\_pubs/standard/S-52/S-52%20Edition%206.1.1%20-%20June%202015.pdf](http://www.iho.int/iho_pubs/standard/S-52/S-52%20Edition%206.1.1%20-%20June%202015.pdf)

5. S-64 Edition 3.0.1 [http://www.iho.int/iho\\_pubs/standard/S-64/S-64\\_Edition\\_3.0.1/index.htm](http://www.iho.int/iho_pubs/standard/S-64/S-64_Edition_3.0.1/index.htm)

**V3.0.0 Changes** - Reference 20180116-AML Portrayal Change Log Master Spreadsheet

Changes in v3.0.0 of the AML Portrayal Specification include:

- a. Changes to Viewing Groups and Display Mode;
- b. Changes to some symbols to better align with current topographic map portrayal.

v3.0.0 AML Portrayal Specification

Published 28 June 2018