

AVCS

ADMIRALTY
Vector Chart Service

Using the ADMIRALTY Vector Chart Service with Furuno ECDIS

This guide is based on the FURUNO FEA 2107/2807 Series ECDIS

The guide should be used in conjunction with the AVCS User Guide, as well as the ECDIS Operators Manual or other documentations as supplied by the equipment manufacturer



United Kingdom
Hydrographic Office

Version 1.0

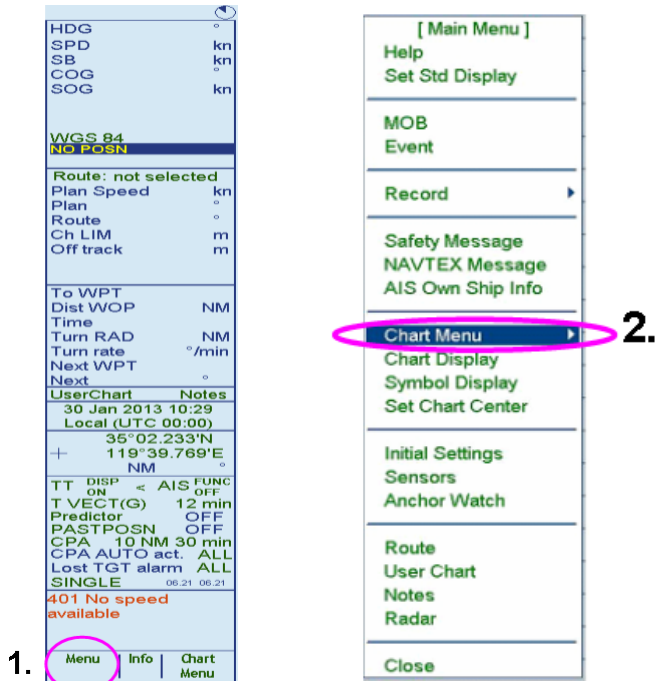
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1 Data Management

All electronic chart licensing and data management operations are carried out through the 'Menu' and 'Chart Menu' functions, accessed by rolling the ball/mouse on the bottom right hand side of the FURUNO ECDIS:

1. Select the 'Menu' function

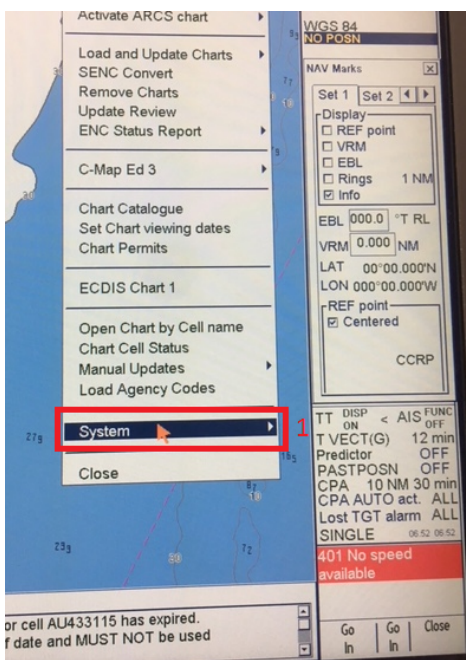
2. Then select the 'Chart Menu' function



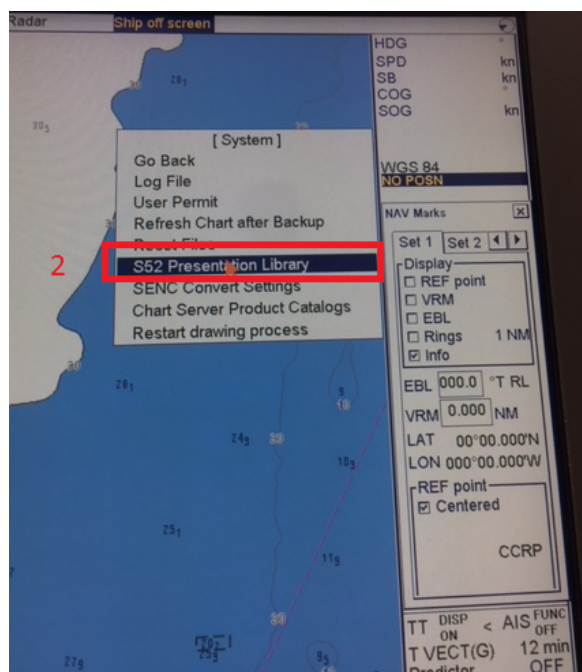
Prior to installing AVCS ENC's, users must make sure that S-57 is correctly activated on their FURUNO ECDIS:

Menu: *Chart Menu* → 'Activate S-57' → *Ignore Scale or Sync Scale (both options are suitable)*

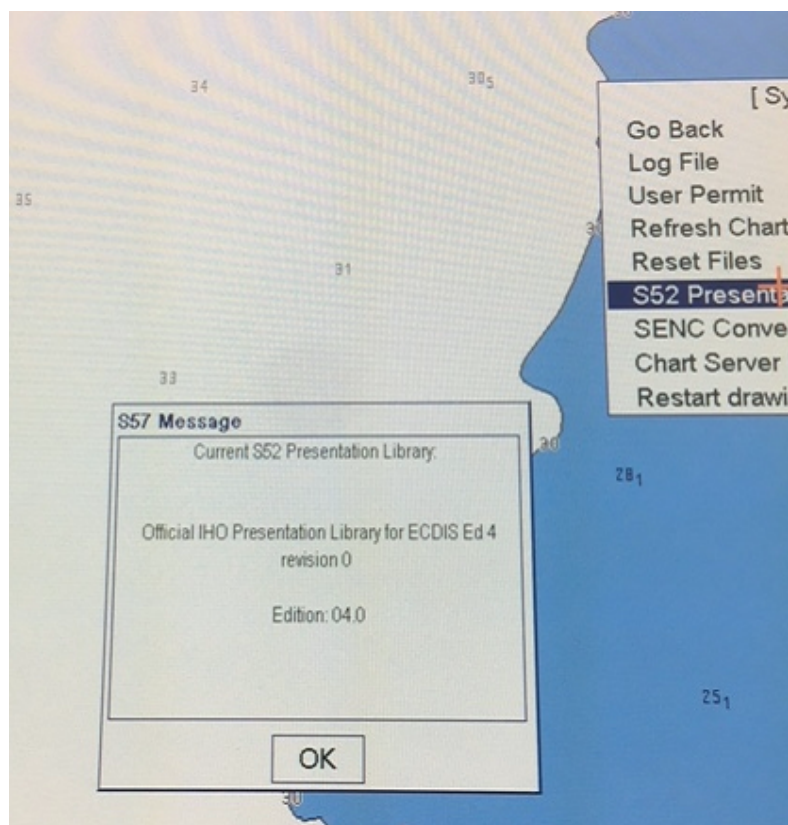
To check the presentation library



1. Select "System".



2. Select "S52 Presentation Library".

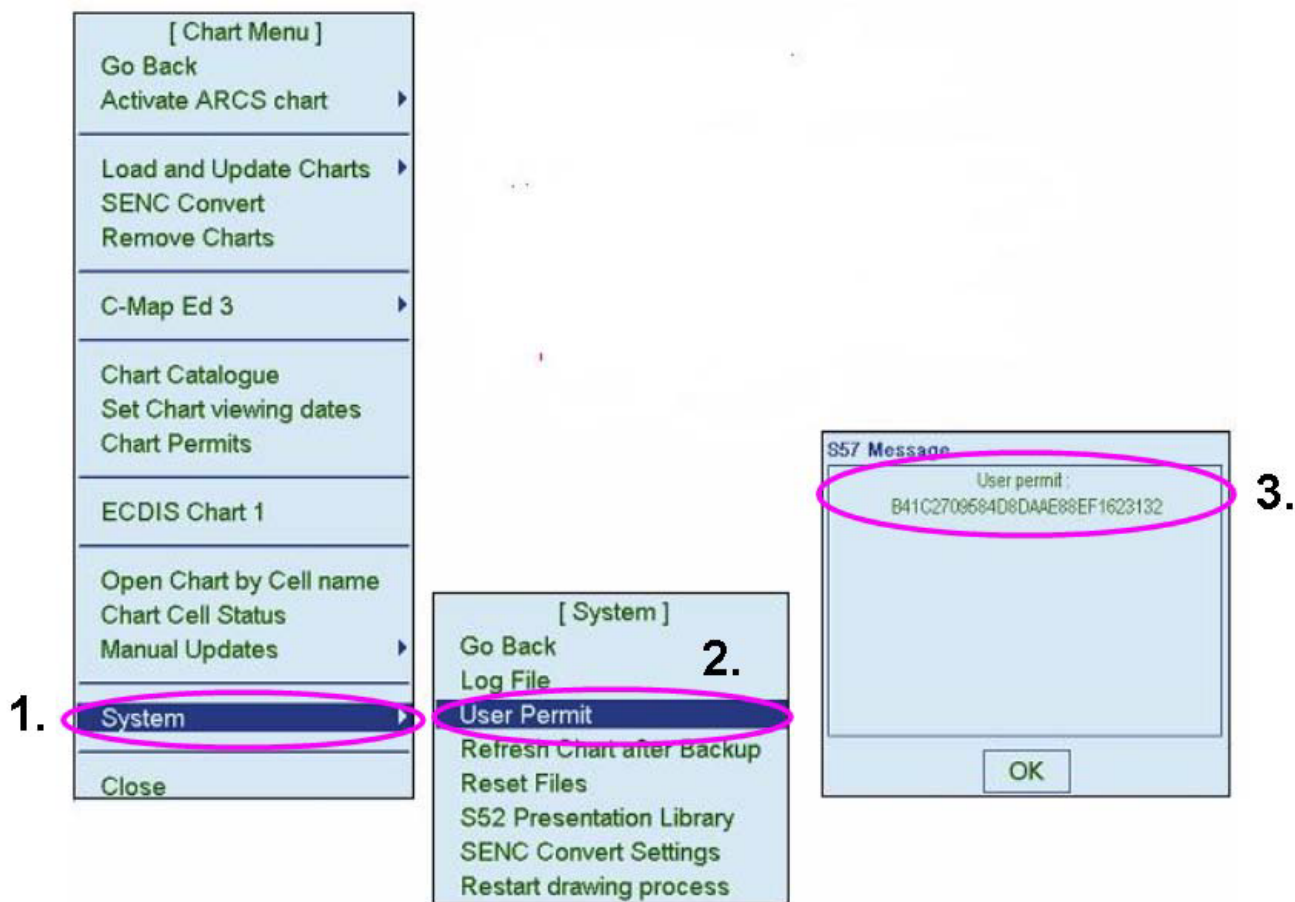


3. The presentation library information is displayed.

2 The User Permit Number UPN

The User Permit Number is a 28 character alphanumeric string that is unique to each ECDIS installation or group of ECDIS, e.g. multiple bridge installations. The User Permit Number should have been supplied at the time of delivery and must be used when ordering an AVCS license.

1. In 'Chart Menu', select 'System'
2. In 'System', select 'User Permit'
3. The User Permit then appears in the 'S-57 Message' dialog box

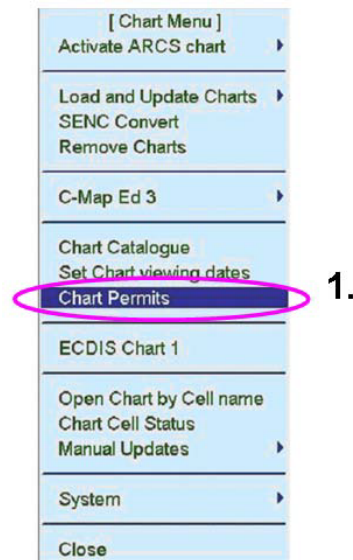


3 The Public Key

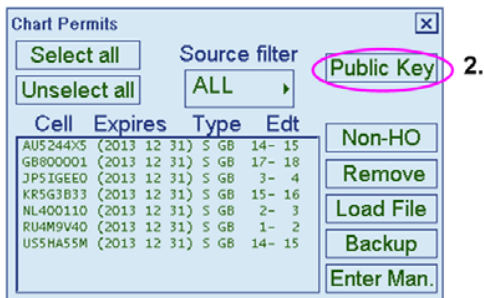
The Admiralty Vector Chart Service currently uses the IHO.CRT, issued by the International Hydrographic Organisation, to authenticate its AVCS ENC's. However, the Furuno FEA 2107/2807 ECDIS uses the IHO.PUB Public Key which is included in all AVCS media.

To view the installed Public Key

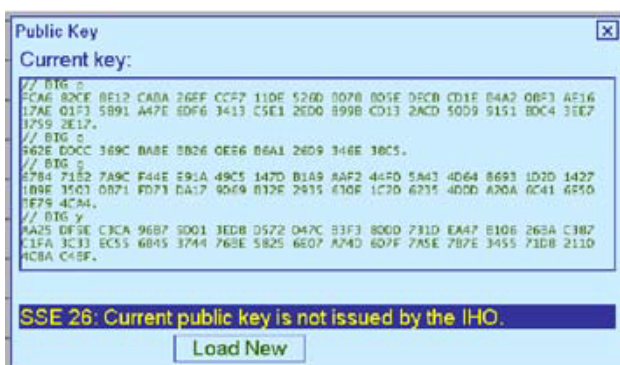
1. In the 'Chart Menu' window, select 'Chart Permits'



2. Select 'Public Key'



The installed 'Public Key' will then be displayed



To install a new Public Key

Menu: Chart Menu → Chart Permits → Public Key → Load New → “Public Key” Load window → Load → Accept New

1. From the ‘Chart Permits’ window, select ‘Public Key’ and then select ‘Load New’

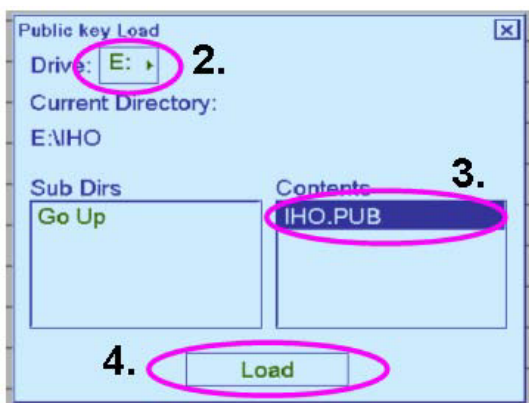


1.

2. In ‘Public Key Load’ window, select the Drive where the IHO.PUB Public Key is stored

3. Highlight the IHO.PUB Public Key to be installed

4. Click ‘Load’



5. A new ‘Public Key’ window will be shown displaying the IHO.PUB Public Key file. This will not overwrite the currently installed Public Key until the user clicks on ‘Accept New’



4 Deleting ENC Data

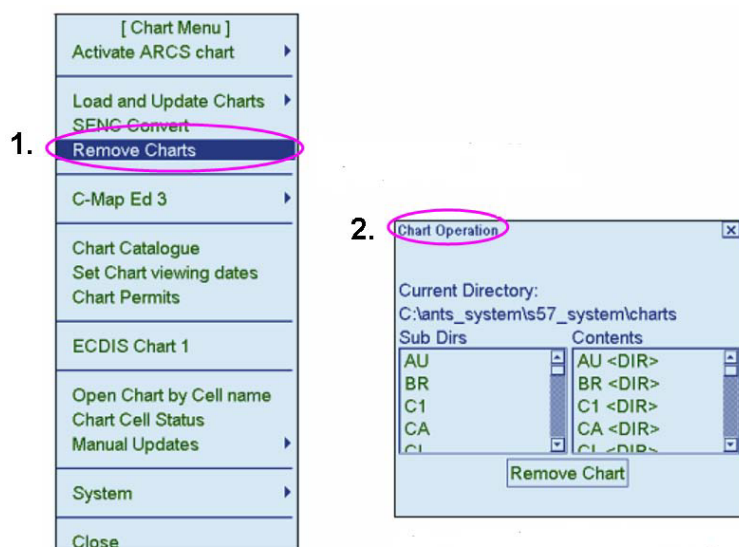
New AVCS customers who had previously subscribed to other ENC services are strongly recommended to remove (purge) all ENC Permits and ENCs from the system before installing AVCS. For more information please refer to the 'Data Cleansing' section in the AVCS User Guide.

To delete ENC data from the system:

Menu: Chart Menu → Remove Charts → 'Chart Operation' window

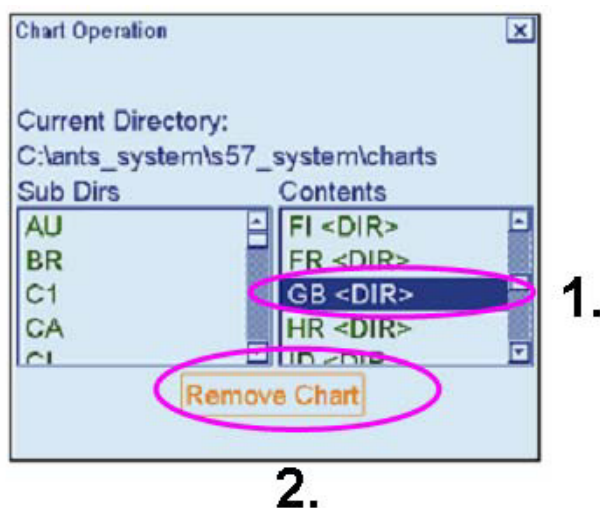
1. In 'Chart Menu', select 'Remove Charts'

2. A 'Chart Operation' window appears



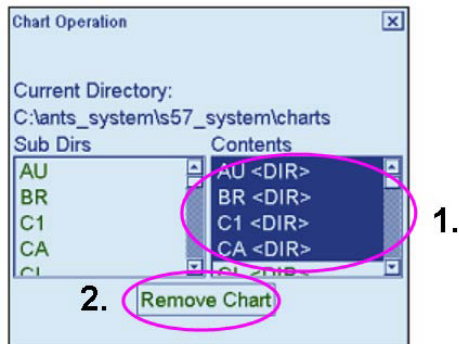
Deleting 1 Country Directory only

1. In 'Chart Operation' window, select the Country Directory to be deleted



Deleting All Charts from several Country Directories

1. In 'Chart Operation' window, select Country Directories to be deleted by holding Shift on your Keyboard to select multiple cells
2. Click on 'Remove Chart'

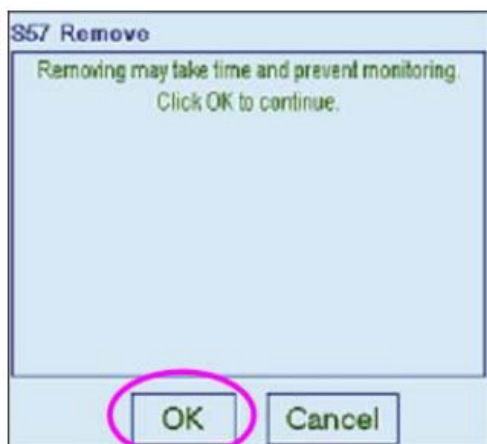


Deleting 1 or more Chart(s) from 1 Country Directory only

1. In 'Chart Operation' window, select the Country Directory from which required the Chart is to be deleted (i.e. several Charts can be deleted by holding Shift on your Keyboard)
2. Click on 'Remove Chart'



3. Select 'OK' in the 'S-57 Remove' window to confirm the deletion



3.

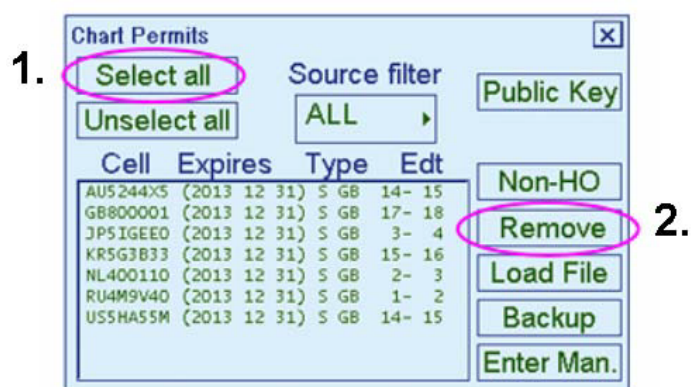
5 Deleting ENC Permits

If the user has previously subscribed to another ENC service it is advised to remove these ENC permits from the ECDIS system before use. The user must select the cells for which permits are to be deleted. In most instances this will simply involve selecting all cells. In certain circumstances it may be required to remove permits for individual cells, in this case simply select the cells for which permits need to be deleted.

Delete ALL ENC permits

Menu: Chart Menu → Chart Permits → Select All → Remove

1. From the 'Chart Menu', in 'Chart Permits' window, click on 'Select All' to select all Permits
2. Click on 'Remove'

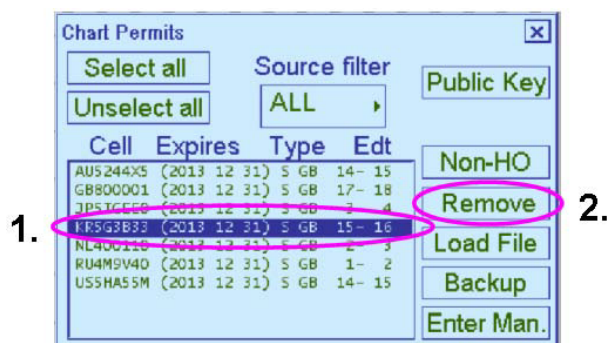


The 'Unselect all' button reverses this 'Select all' operation.

Manually remove only SELECTED Permits

Menu: Chart Menu → Chart Permits → Select an Individual or a Selection of Cell Permits → Remove

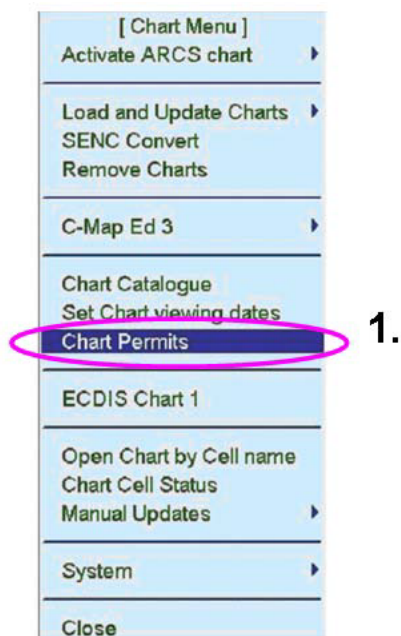
1. From the 'Chart Menu', in 'Chart Permits' window, select an Individual or a Selection of Cell Permits (holding the Shift Key on your Keyboard) that need to be deleted
2. Select 'Remove'



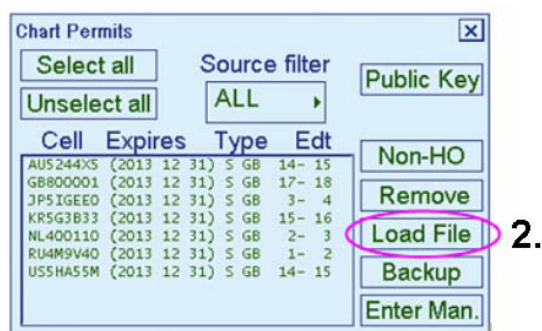
6 Installing ENC Permits

To install AVCS ENC Permits:

1. Select "Chart Menu" and "Chart Permits".

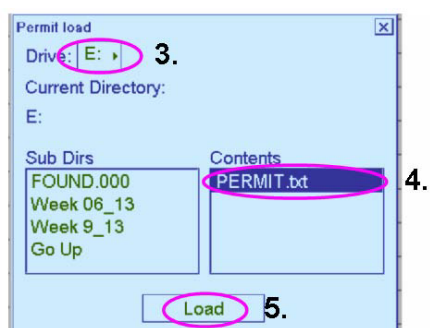


2. In the 'Chart Permits' window, click on 'Load File'



A 'Permit Load' window will be then displayed

3. Select the Drive where the Permits supplied by the UKHO are held
4. When the source has been selected, highlight the file named 'PERMIT.TXT'
5. Click 'Load' to install the AVCS ENC Permits



7 Installing AVCS DVDs

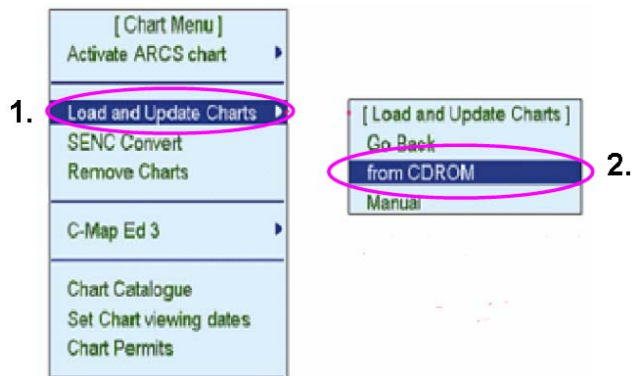
There are currently 2 AVCS DVDs Media. **AVCS DVD Media contain all the latest Base and Update data.** It is unlikely that users will need to install both the DVDs in order to load all licensed ENC's. Reference to the *Schedule A* can avoid the unnecessary loading of both DVDs and save the user time.

The process described here should be used in almost all circumstances as it will automatically select data to be loaded according to the permit file installed by the user.

Note: The loading process within the ECDIS will be very similar to that required for the AVCS CD Service however there are some minor differences which are detailed below

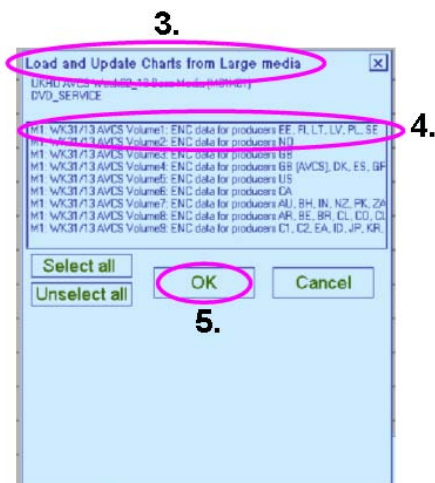
Note: Ensure the latest permits have been installed before attempting to install any data

1. Insert the AVCS DVD into the appropriate drive (i.e. D/Q) and click in the 'Chart Menu' click on 'Load and Update Charts'
2. Select 'From CDROM'



Note: AVCS Bases and Updates on DVDs are identified as Volumes in the FURUNO FEA 2107-2807 ECDIS

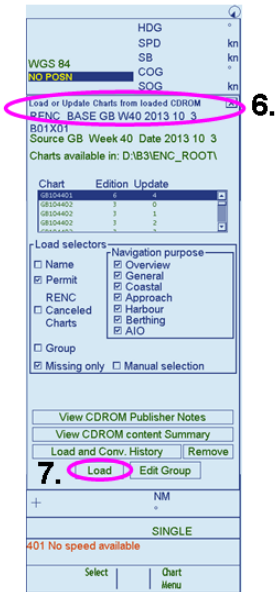
3. A new 'Load or Update Charts from Large Media' window will then be displayed
4. Select each Volume individually
5. Click 'OK' to initiate the DVD Installation



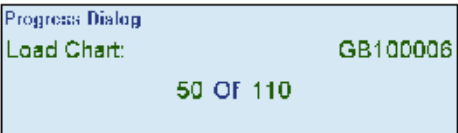
A “Progress Dialog” box will then appear to confirm that the Charts are being checked.



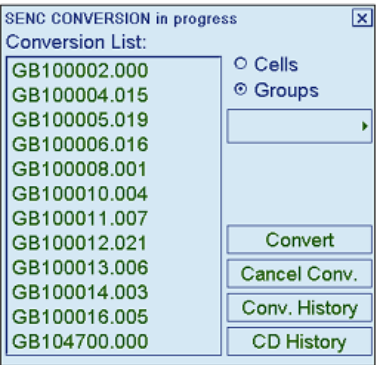
- 6. A new ‘Load or Update Charts from loaded CDROM’ window will be then displayed on the right hand side
- 7. Select ‘Load’ to initiate the CD Installation



A ‘Progress Dialog’ box will then appear to confirm that the Charts are loading.



When the system has cycled through all the licensed ENC’s a ‘SENC CONVERSION in progress’ window will be displayed. This window shows all licensed ENC’s and the corresponding updates. As each one is converted, it is removed from the list.



Note: Repeat above steps for all required AVCS DVD datasets

SENC Conversion error messages

'Failed Conversion' error messages will appear on the screen if the system has failed to convert the ENC's to SENC. A Conversion Log provides information relating to the import and conversion of ENC's to SENC and reports appropriate messaging.

Permanent Warnings Displayed in the ECDIS Viewer

Permanent warnings are provided to bring to the attention of the user the status of the installed ENC's and highlight those that may not be up-to-date on the ECDIS.

Permanent Message

SSE 27: At least one of used charts is not up-to-date. Get or load latest updates from your RENC service. Use Chart Menu - Set Chart viewing dates to check charts

Mainly a warning to correctly set various date values and has nothing to do with the data. To change these date values select Chart Plan - Date Dependent and set the Display Until and Approve Until dates to a value sometime in the future

Permanent Message

At least one of used charts may not be up-to-date because Permit has been removed since SENC conversion. Use Chart Menu - Permits to load Permits

Installed ENC's are not as up-to-date in respect of the latest PRODUCTS.TXT file loaded in the ECDIS. Updates must be installed prior to navigation.

Permanent Message

At least one of used charts is canceled. Use Chart Menu - Chart Catalogue to check charts. Use Chart Menu - Remove Charts to remove chart.

Installed Updates might contain ENC cancellations which should be removed from the SENC.

Permanent Message

At least one of used charts may not be up-to-date because Permit has been removed since SENC conversion. Use Chart Menu - Permits to load Permits

Chart permit has been removed after ENC was loaded and converted to the SENC

Permanent Message

SSE 25: At least one of used charts may not be up-to-date, because Permit is expired. Consider renewing of your Permits. Use Chart Menu - Permits to check Permits

Some expired permits are still installed in the ECDIS. Remove permit or renew subscription for permits.

8 Installing AVCS Base CDs

There are currently 9 AVCS Base CDs but this number will grow as more ENC's become available for distribution within AVCS. It is unlikely that users will need to install all of the CDs in order to load all licensed ENC's. Reference to the *Schedule A* can avoid the unnecessary loading of some CDs and save the user time.

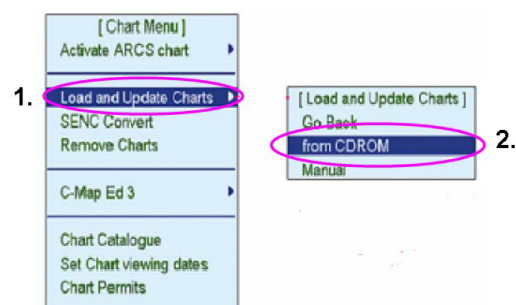
The process described here should be used in almost all circumstances as it will automatically select data to be loaded according to the permit file installed by the user.

Note: Ensure the latest permits have been installed before attempting to install any data

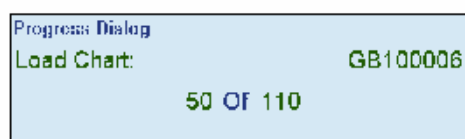
Menu: Chart Menu → Load and Update Charts → from CDROM → Load → Load from CD → OK

1. After having inserted the first AVCS Base CD identified in the Schedule A into the appropriate drive (i.e. D/Q), in the 'Chart Menu' click on 'Load and Update Charts'

2. Select 'From CDROM'

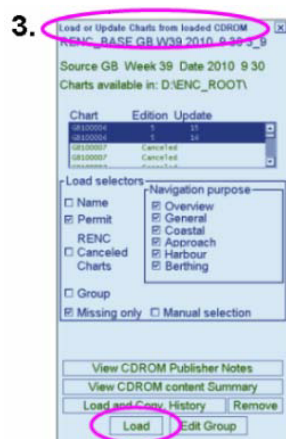


A 'Progress Dialog' box will then appear to confirm that the Charts are being checked.



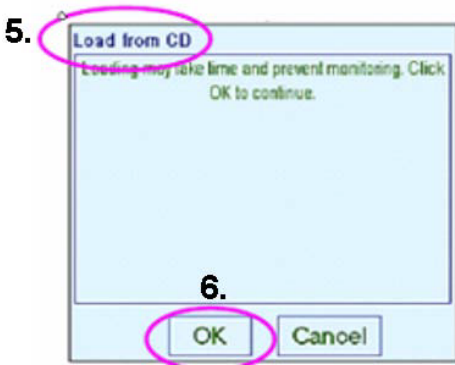
3. A new 'Load or Update Charts from loaded CDROM' box will be then displayed on the right hand side. Within the 'Load Selectors' box, users can choose the required Cells (i.e. according to their Permits).

4. Select 'Load' to initiate the CD Installation

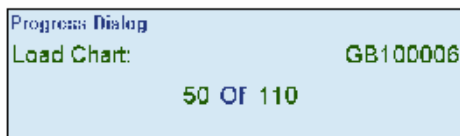


5. A new 'Load from CD' window will then be displayed

6. Click 'OK'

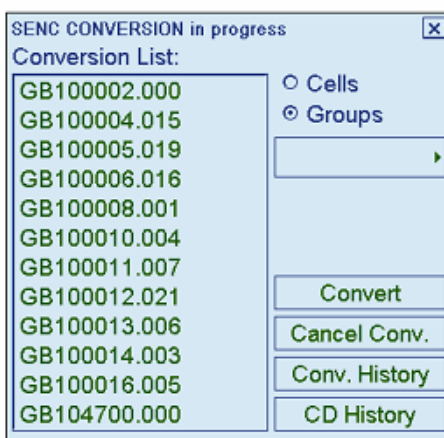


A 'Progress Dialog' box will then appear to confirm that the Charts are loading



When the system has cycled through all the licensed ENC's a 'SENC CONVERSION in progress' window will be displayed.

This window shows all licensed ENC's and the corresponding updates.
As each one is converted, it is removed from the list.



At the end of the process the list will be empty.

This process should be repeated until all required Base CDs have been installed.

Note: Make sure that all the required AVCS Base CDs have been inserted and the import operations completed before installing the latest Update CD. Updates cannot be applied unless the ENC base file is present in the system database.

9 Installing AVCS Update CD

Note: The AVCS update disc will indicate which Base disc week must have been installed. It is important that users do not attempt to load an Update CD that is not consistent with the Base CDs

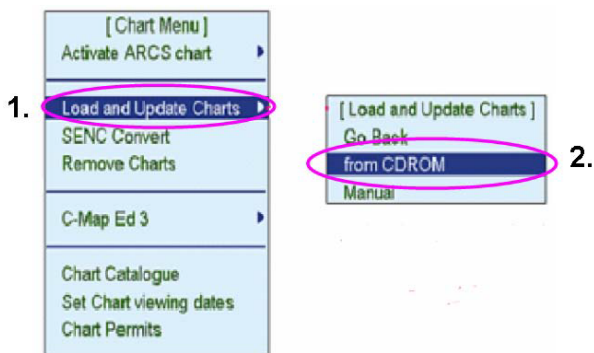
Note: Check the AVCS Update CD for the required Base CDs to be applied first.

To install AVCS Update CD:

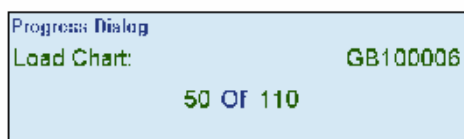
Menu: Chart Menu → Load and Update Charts → from CDROM → Load → Load from CD → OK

1. Insert the AVCS Update disc identified in the Schedule A into the appropriate drive (i.e. D/Q) and click in the 'Chart Menu' click on 'Load and Update Charts'

2. Select 'From CDROM'



A 'Progress Dialog' box will then appear to confirm that the Charts are being checked.



3. A new 'Load or Update Charts from loaded CDROM' box will be then displayed on the right hand side.

Within the 'Load Selectors' box, users can choose the required Cells (i.e. according to their Permits). 4. Select 'Load' to initiate the CD Installation

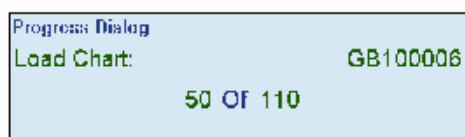


5. A new 'Load from CD' window will then be displayed

6. Click 'OK'

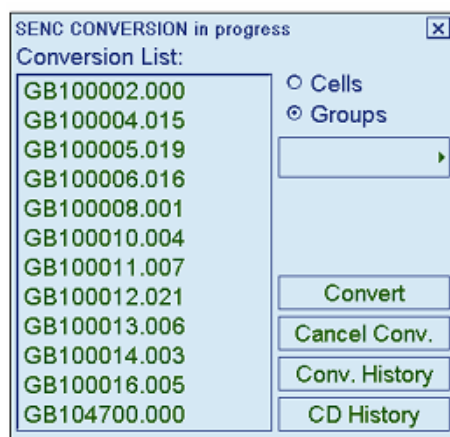


A "Progress Dialog" box will then appear to confirm that the Charts are loading



When the system has cycled through, all the licensed ENC's a 'SENC CONVERSION in progress' window will be displayed.

This window shows all licensed ENC's and the corresponding updates. As each one is converted, it is removed from the list.



10 Installing Exchange Set using USB media

The exchange set contained the latest Notices to Mariners' corrections, New Editions and New Charts issued since the last update for their AVCS holdings. The exchange set can be downloaded using online chart updating software.

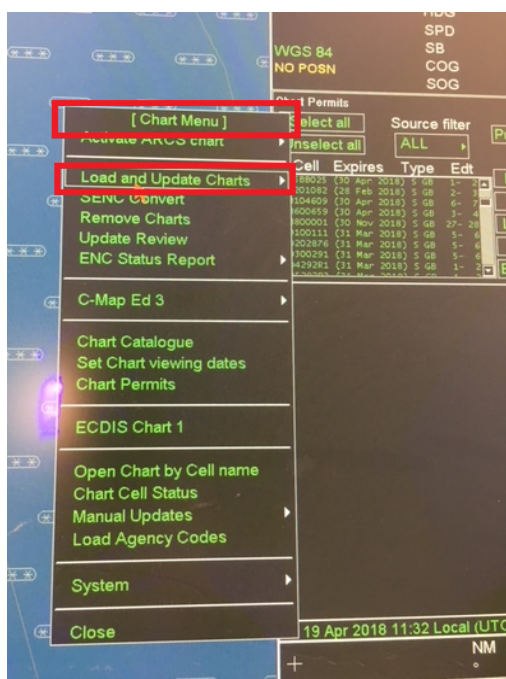
To install AVCS/AIO Exchange Set using USB Stick:

Note: Do not save PERMIT.TXT together with the ENC/AIO Exchange Set.

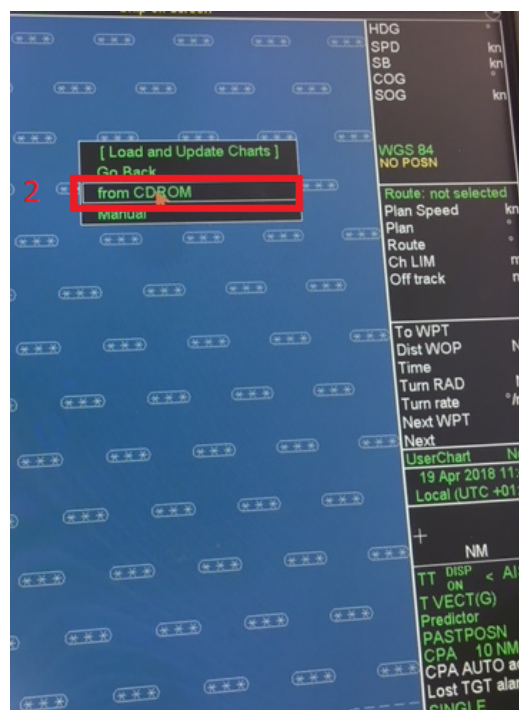
Note: The AVCS update disc will indicate which Base disc week must have been installed. It is important that users do not attempt to load an Update CD that is not consistent with the Base CDs

Note: Check the AVCS Update CD for the required Base CDs to be applied first.

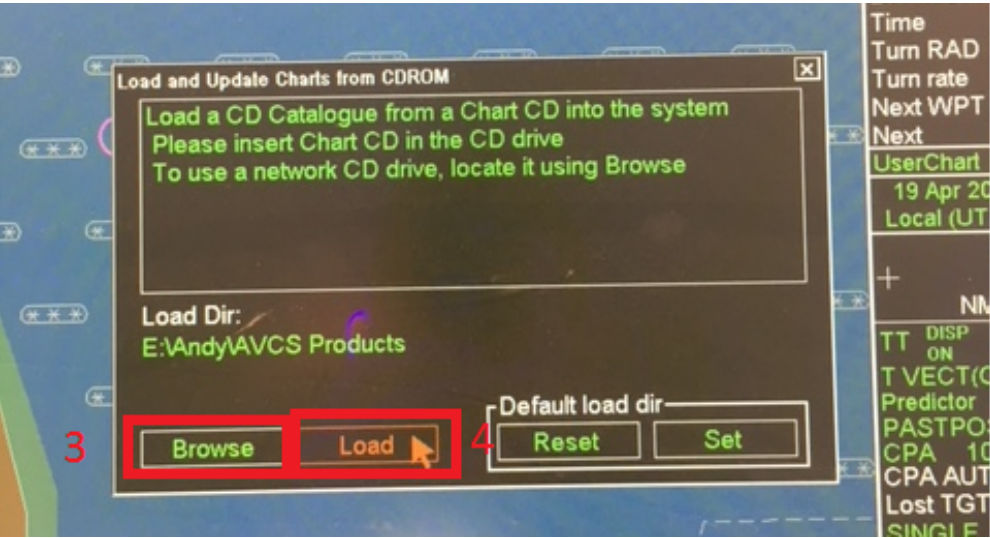
1. Select "Chart Menu" and then "Load and Update Charts"



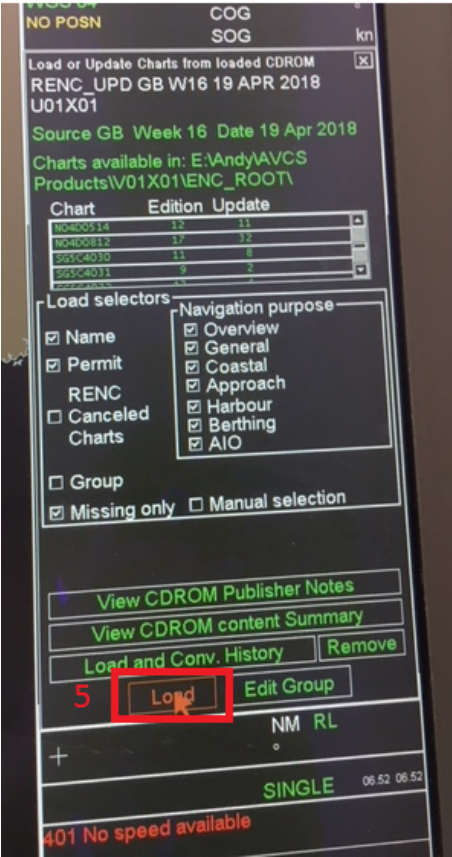
2. Select "from CD ROM"



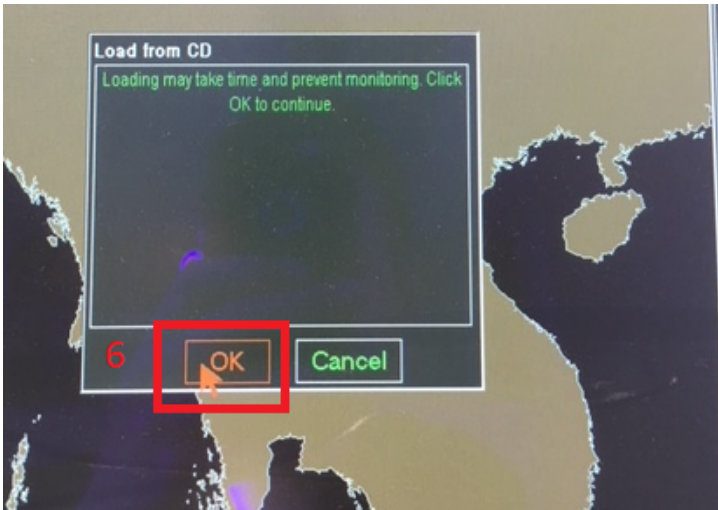
3. Select "rowse" and locate the directory where the " O1 O1" exchange set folder is located and then select "Load".



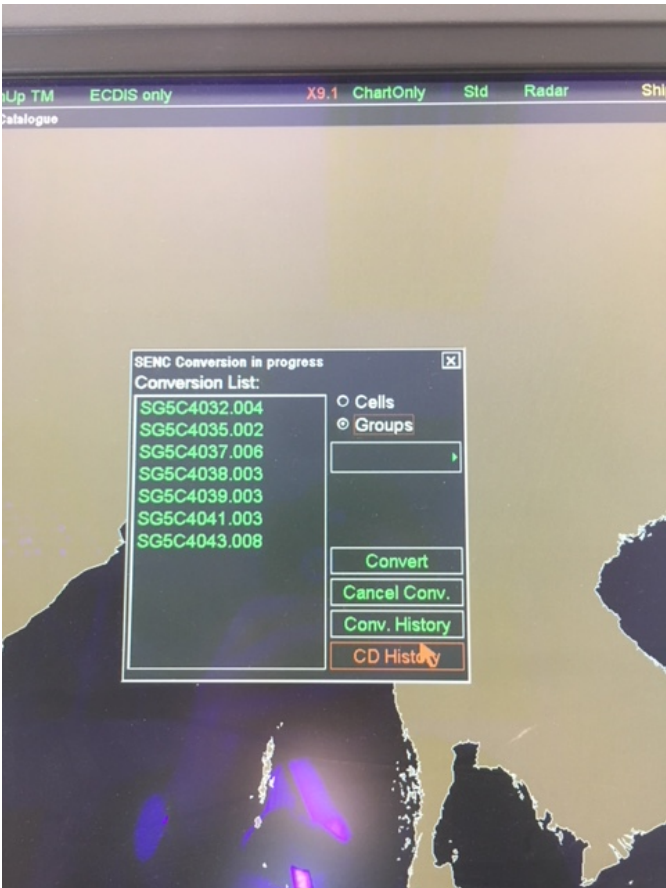
5. Select "Load" and the ECDIS will convert the data into SENC format and will be usable in your ECDIS.



. Select "O " when the following box appears.



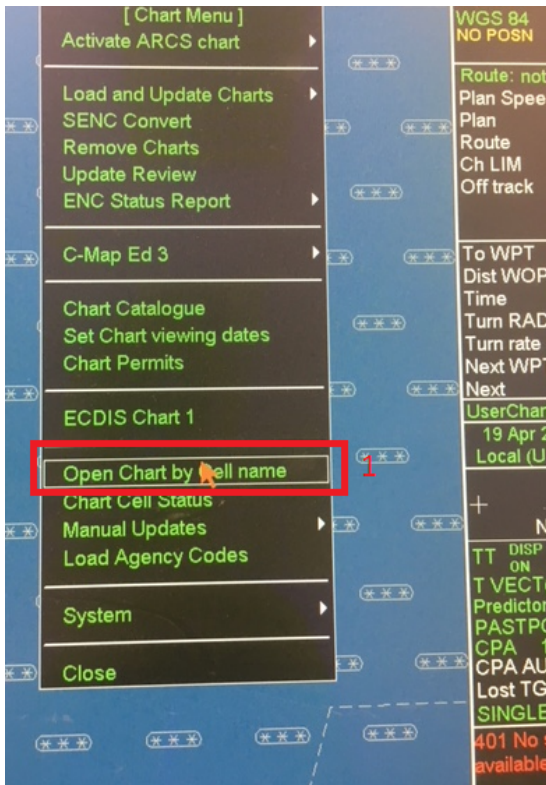
The ECDIS will then begin converting the data and remove from the list once the ECDIS has processed the data.



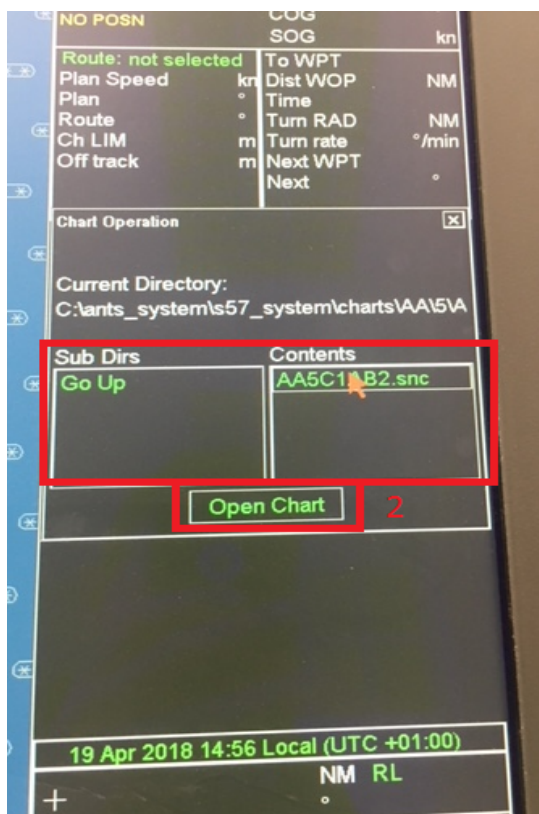
11 Viewing an ENC

To view ENC data:

1. From the chart menu select "Open Chart by Cell name".



2. From the right hand menu navigate through the directories and sub directories to find the ENC.snc file and select "Open Chart".



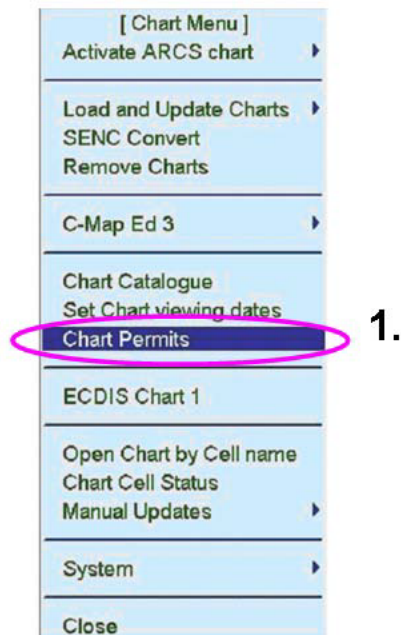
The chart will then open on the ECDIS display.

12 Installing AIO Permits

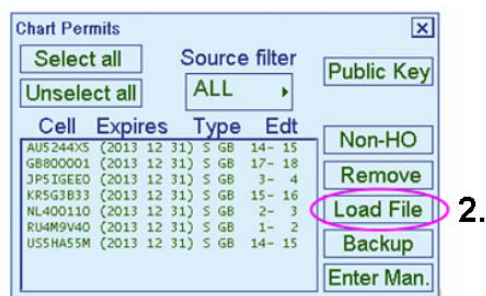
To install AIO Permits:

The Admiralty Information Overlay (AIO) should only be installed when the relevant AVCS S-63 1.1 Data has been installed.

1. Select "Chart Menu" and "Chart Permits".

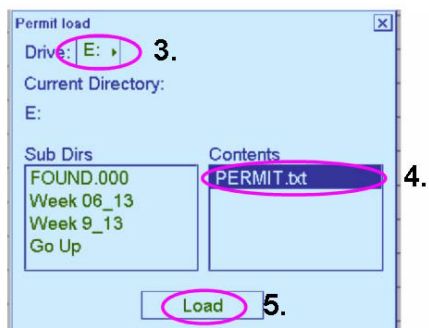


2. In the 'Chart Permits' window, click on 'Load File'



A 'Permit Load' window will be then displayed

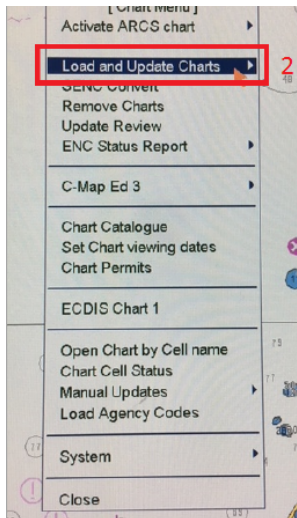
3. Select the Drive where the AIO Permits supplied by the UKHO is held.
4. When the source has been selected, highlight the file named 'PERMIT.TXT'
5. Click 'Load' to install the AIO Permit.



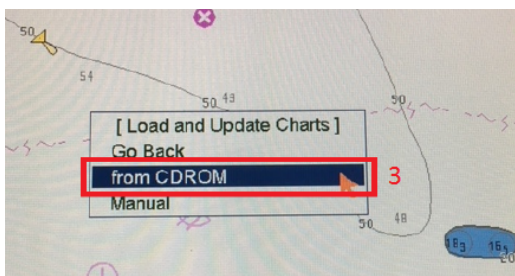
13 Installing AIO CD

To install AIO CD:

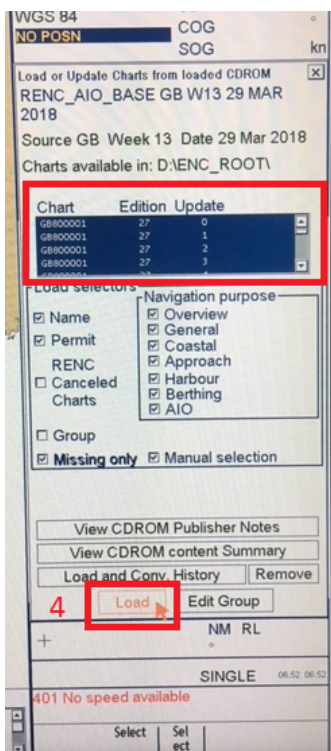
1. Insert the AIO disk into the Furuno ECDIS.
2. Select "Load and Update Charts"



3. Select "from CDROM"



4. Ensure the updates on the disk are highlighted and then select "Load".

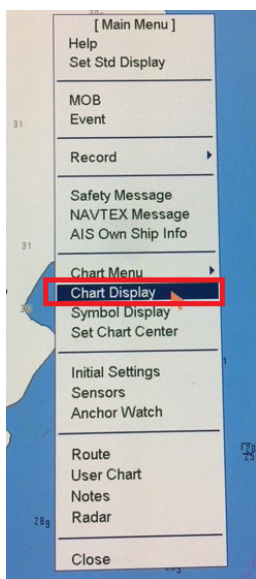


The ECDIS will then convert the AIO into SENC format and will be viewable in your ECDIS.

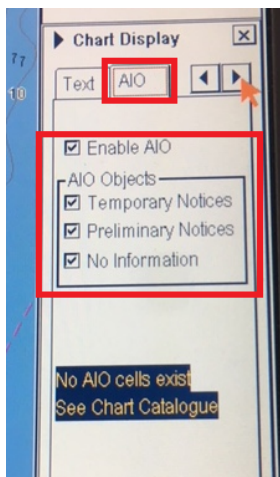
14 Using the AIO

To enable AIO data:

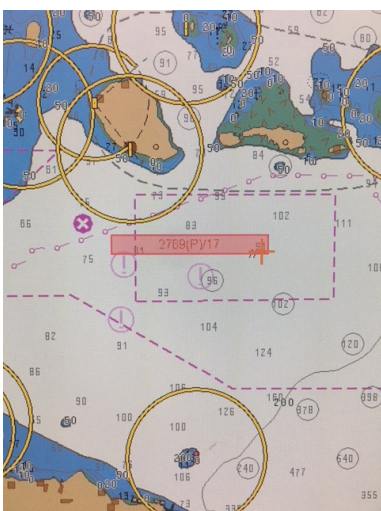
1. Select from the main menu "Chart Display".



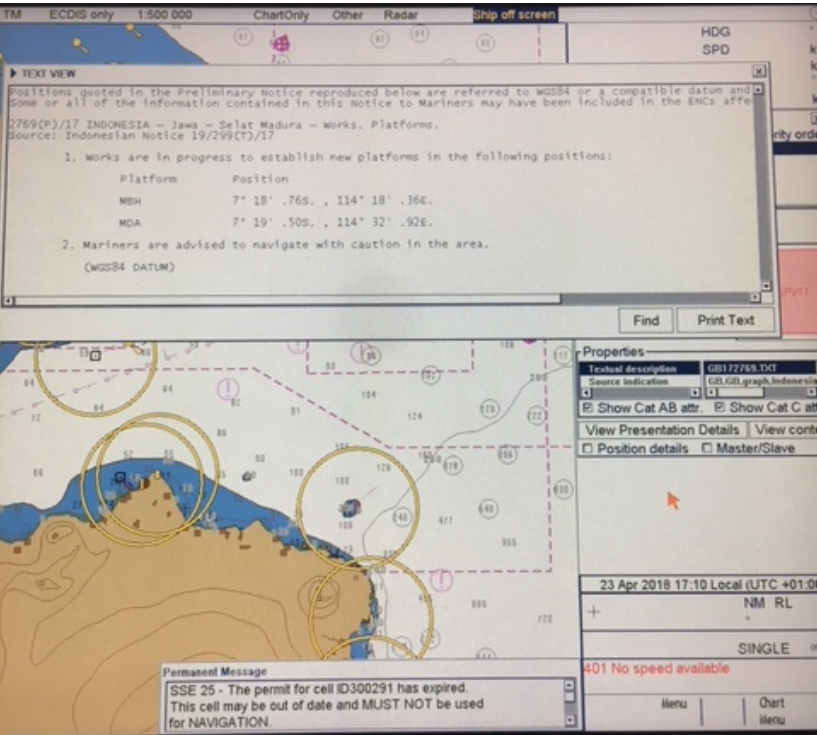
2. Select the "AIO" tab from the display window. Ensure "Enable AIO" is ticked on and all the AIO object boxes are ticked on.



Providing the AIO data has been installed and the above options are enabled, the AIO layer will appear as red polygons with the T and P number in the middle of them.



Providing you have the "Info" button selected click over the AIO polygon and in the "Properties" window to the right of the screen you can interrogate the information.



15 Systems Checks

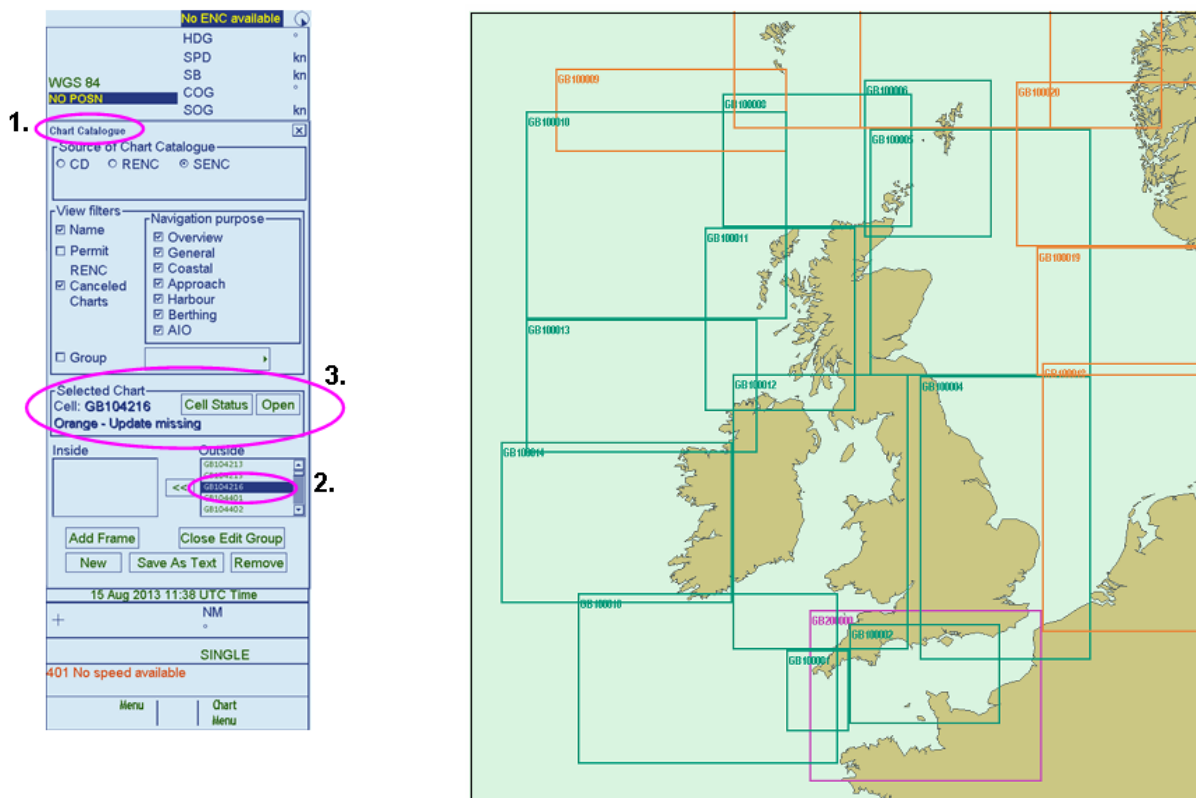
The user has the option to review the status of all installed ENC's on the Furuno ECDIS within a colour coding system. The display will very much depend on the filtering applied and the user's installed ENC permits.

Menu: Chart Menu → Chart Catalogue → Select Chart → Selected Charts box

1. In 'Chart Menu', select 'Chart Catalogue'

2. Select required Chart

3. In the 'Selected Chart' box, the status of the Cell then appears (i.e. Green, Orange, Red, Blue, Magenta) matching the colour-coding geographical display



Green: The ENC is available for use in SENC format. If the source of the ENC is a RENC, then the ENC is also up-to-date. If the source of the S-57 vector chart is something other than a RENC then all loaded updates are included into the SENC.

Orange: The ENC is available for use in SENC format but it is either not up-to-date or has been cancelled. This could be for several reasons, either the SENC is from a previous edition, the latest SENC update was missed or the ENC has been cancelled.

Red: If an ENC is installed in the SENC but does not have a corresponding permit installed then the ENC is no longer available for display in the viewer.

Blue: The conversion of the Cells from RENC to SENC as somehow failed during the conversion process. This can be due to a software upgrade or an issue with the data itself preventing the Furuno from successfully converting to SENC. For example, one Cell was up-to-date before a software upgrade and was not updated when the software was upgraded. Then the Cell would show as blue until the conversion process is completed. Contrary to the Magenta colour which means that the RENC to SENC conversion was not even started.

Magenta: You have a permit to use the ENC, but the ENC is not available in SENC format and thus you cannot use the ENC currently.

16 Troubleshooting

Many of the difficulties that could be experienced when using the Admiralty Vector Chart Service with this system can be avoided by carefully following the instructions in this guide. However, issues that are known to have caused confusion in the past are detailed in the Frequently Asked Questions (FAQ) section which can be found at:

<http://www.admiralty.co.uk>

If you encounter problems that are not solved by referring to the FAQs, you may wish to seek Technical Support. Please see the section below for contact details.

Who should you contact?

You will receive the most effective support if you address your initial query to either the Manufacturer of your ECDIS equipment or the Chart Agent you obtain your AVCS charts from, but in certain circumstances you may need to contact the UKHO Customer Services.

Problem	Contact
Hardware problems: difficulties with the keyboard, mouse, display or main system console, failure of a floppy disk or CD drive.	ECDIS Manufacturer
Software problems: difficulties with configuring or using the ECDIS system software, interfacing problems.	
Chart installation problems: problems with installing certificates, permits and AVCS ENC's, standard error codes displayed (see AVCS User Guide).	Admiralty Chart Agent
Chart content problems: display anomalies or mismatched data displays.	
Problems that have not been resolved by your Admiralty Chart Agent.	UKHO Customer Services

When reporting a chart related problem it is useful if you can provide the following details :

- > Licence number
- > Vessel name
- > IMO
- > ECDIS/Software Manufacturer
- > ECDIS software version
- > Details of error message – Including 'SSE' error code
- > Screen shot(s) of error
- > Details of Base CD or DVD Discs used (week)
- > Details of Update CD used (week)
- > Details of Permits used (week)
- > Details of Cell number(s) errors apply to
- > Have there been any configuration changes to system(s)
- > Details of User Permit(s) and PIN Number(s)

Emergency Chart Permit Generation

In certain circumstances it may be necessary for a vessel to get access to an AVCS chart at very short notice, for instance if a route needs to be **diverted due to a medical or safety emergency**.

In these emergency circumstances only, individual AVCS ENC Permits can be obtained from the UKHO **24 hours a day, 365 days a year**.

To obtain an AVCS emergency permit please quote:

- Vessel Name
- ECDIS User Permit Number
- Required ENC(s)

These permits can be transmitted direct to the vessel by email wherever possible or by simply reading the characters out over the telephone or radio.

Support Hours: 0600-2200 Monday -Friday

Telephone: +44 (0)1823 484444

Email: customerservices@ukho.gov.uk

Contact: UKHO Customer Services

Web: <https://www.admiralty.co.uk/>

Feedback

We hope this User Guide assists you in using the ADMIRALTY Vector Chart Service with this system. If you have any feedback on the content of this particular guide, or the online FAQs, please forward your comments to your ADMIRALTY Chart Agent or directly to UKHO Customer Services.

About us

The United Kingdom Hydrographic Office is a leading provider of global marine geospatial data. We help to inform maritime decision-making for navigation, infrastructure development and the management of marine resources.

Serving users worldwide

Our world-leading location based information is available through ADMIRALTY Maritime Data Solutions to users worldwide.

For more information, contact our global network of ADMIRALTY Chart Agents. Alternatively, contact our customer service team.



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Find out more about our market-leading
ADMIRALTY Maritime Products & Services:

admiralty.co.uk    