

Kongsberg K-Bridge ECDIS and Planning Station

Operator Manual

K-ECDIS and K-Planning software release 3.3

- 3 Select the **Install** tab (if not already selected).
 - Before installing the new charts, the Working set may be modified as described above under installing a selection of charts.
 - Under Install Options the following functions are available:
 - Remove Charts Outside Working Set (default on).
 - Remove Old Charts (default on).
 - Force Regeneration - K-ECDIS will re-install the charts that are already in the database (default off).
- 4 Click **Install** charts.
 - The Working set is automatically updated with the new charts available on the CD-ROM.

2.5.3 Deleting charts

The chart delete function provides means to delete all charts, old charts or charts located outside the navigation working set. Do the following:

- 1 On the monitor select **Menu**→**Chart**→**CM-93 Edition 2 Chart Management**.
- 2 Select the **Delete** tab.
- 3 Click the button for the selected option.

2.6 How to use C-Map CM-93 edition 3 charts

CM-93 Edition 3 is the latest chart format that is compatible with the IHO S57 edition 3 format and is manufactured by C-Map. The C-Map CM-93 Edition 3 chart database contains the same charts that are available in CM-93 Edition 2, but the format is different and the handling inside K-ECDIS is more efficient. All CM-93 Edition 3 charts are available on a single CD-ROM or DVD. Both official HO ENC charts and unofficial non-ENC charts may be included.

The most common C-Map Edition 3 database is called "World" and contains charts for the whole world. K-ECDIS allows you to install the whole database, and license only the charts that you want.

The "World" database is also available in a DVD version containing the same data but with additional charts and extra material. In the DVD version, the database is called "Professional+" and is by default given the mnemonic "CP".

2.6.1 Installing charts

To install C-Map CM-93 Edition 3 charts you will need a CD-ROM containing the charts and a licence code from C-Map. Do the following:

- 1 On the monitor select **Menu**→**Chart**→**Chart Types**.
- 2 Under databases see if **World** or **Professional+** is included.
- 3 If it is included, this indicates that the system has been initialized, go to step 18, otherwise continue at step 4.
- 4 On the monitor select **Menu**→**System**→**Passwords**.
- 5 Enter the user password. See section 3.10.9 for more information.
- 6 On the monitor select **Menu** →**System** →**Maintenance** →**Reconfigure Chart Database**.
- 7 Click **C-Map CM-93 Edition 3 Database**.
 - If this is the first time a CM-93 Edition 3 database is defined, enter the serial number for your console, see figure below, where the console front door is opened and looking inside the console with the label for serial number on the wall to the left.
 - The K-Bridge has a six digit serial number (K-Bridge MFD SN.: 23xxxx).
 - The K-Planning has a four digit serial number (K-Bridge-PL SN: 1xxx).

Figure 12 Where to find the console serial number



- 8 Open the front cover of the console and note down the serial number found on the left side, see the illustration above.
- 9 Type in the serial number.
- 10 Select **Reinitialise** (if not already selected).
- 11 Click **Install**.

- The system will install the C-Map Edition 3 software.
- 12** Click the **Apply changes** button twice.
 - The system creates the World database.
- 13** Restart the system by turning it off and then on again.
- 14** On the monitor select **Menu→Chart→CM-93 Edition 3 Chart Management →General→License**.
- 15** Insert an empty disk into the drive.
- 16** Click **Output C-Map User ID file to Floppy**.
- 17** Send the file by e-mail to "license@c-map.no". Or contact them at:
 - C-MAP NORWAY A/S
Hovlandsveien 52
P.O.Box 212
N-4379 Egersund NORWAY
Tel.: +47 51 46 47 00
Fax: +47 51 46 47 01

Note _____

C-Map must know whether you have the CD-ROM "World" or the DVD "Professional+" version, as the license codes are different. So, you are recommended to specify this in the e-mail.

- C-Map will send you a CD-ROM or DVD containing the World database and a licence code.
- 18** Insert the CD-ROM or DVD into the drive.
- 19** On the monitor select **Menu→Chart→CM-93 Edition 3 Chart Management**.
- 20** Select the **Install** tab.
- 21** In the **Chart CD Status** window, select the CD-ROM drive and the CM93_3 directory.
 - This should make the system recognise the database and output its version number.
- 22** Click **Install Chart Database**.
 - The World database takes about 10 minutes to install.
- 23** Go to **Chart→CM-93 Edition 3 Chart Management→General→License**.
- 24** Select the zone or area code corresponding to your license, and enter the code(s) you have received from C-Map.
- 25** Click **Add**.
 - The charts should now be ready for use.
- 26** If you do not see the new charts, restart the system.

- Without any licence codes only the Z-level and A-level charts will be available for viewing.

2.7 How to use S57 edition 3 charts

K-ECDIS is designed to load and update un-encrypted S-57 charts from CD-ROM or floppy disk. Before you load S57 charts for the first time, you will need to set up a database. If you receive charts from different Hydrographic Offices, each set of charts will be stored in its own database.

Note

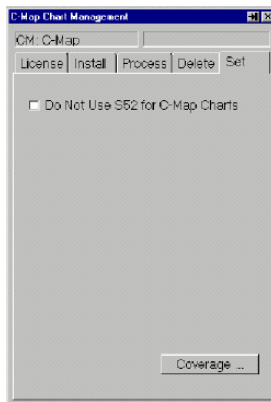
The handling of encrypted S57 data is different for each supplier. Contact to find out if a specific encryption scheme is supported.

2.7.1 Installing charts

Do the following:

- 1 On the monitor select **Menu**→**System**→**Passwords**
- 2 Enter the user password. See section 3.10.9 for more information.
- 3 On the monitor select **Menu**→**System**→**Maintenance**→**Reconfigure Chart Database**.
- 4 Click **S57 Edition 3 Database**.
- 5 If this is the first time an S57 database is created on the system, the system software will have to be installed otherwise continue at step 9.
 - If this is the first time a CM-93 Edition 3 database is defined, enter the serial number for your console, see Figure 12 on page 57, where the console front door is opened and looking inside the console with the label for serial number on the wall to the left.
 - The K-Bridge has a six digit serial number (K-Bridge MFD SN.: 23xxxx).
 - The K-Planning has a four digit serial number (K-Bridge-PL SN: 1xxx).
- 6 Open the front cover of the console and note down the serial number found on the left side, see the Figure 12.
- 7 Type in the serial number.
- 8 Select **Reinitialise** (if not already selected).
- 9 Click **Install**.
- 10 Restart the system by turning it off and then on again.

3.3.10.5 Set tab



Menu to set S52 status.

Do not use S52 for C-Map Charts: When selected, dangerous objects are displayed with normal cartographic symbols instead of S52 symbols, to reduce clutter in low quality charts. Only use in special cases!

Coverage: Click the button to display CM-93 edition 2 coverage.



Menu to display chart coverage. Coloured rectangles with the size of the nominal chart cells are displayed. Note that for large-scale charts, the nominal rectangle will not correspond very well with the chart. Multiple harbour charts will be represented with a single coverage rectangle. Due to the semi-transparent technique that makes it possible to see the chart image through the colour, the colour will deviate from the pure colours shown in the menu.

Don't Show Coverage: CM-93 edition 2 chart coverage display is turned off.

Show Installed Chart Coverage: Displays all CM-93 edition 2 charts loaded into the system.

Show CD Chart Coverage: Displays all CM-93 edition 2 chart you have licensed. Used when not all licensed charts are loaded into the system.

Show New Charts (from ENCdate): All charts from the most recent ENCdate are displayed as coloured rectangles.

Show Old Charts (not from ENCdate): All charts not from most recent ENCdate are displayed as coloured rectangles.

Levels: Select the chart levels to be displayed in coverage presentation. The colour code is used in the coverage presentation.

3.3.11 CM-93 Edition 3 Chart Management

CM-93 edition 3 charts are provided by C-Map. All C-Map CM-93 edition 3 charts are available on a single compact discs. To use the charts you need an authorization code from C-Map.

3.3.11.1 General tab



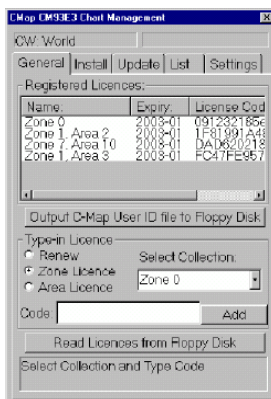
Menu containing information about the installed chart database.

DataBase Status: Will display status such as database name and version number.

License: Click the button to bring up the **License** menu.

Log: Click the button to bring up the **Database Log** menu.

Coverage: Click the button to bring up the **Chart Coverage** menu.



License submenu

Menu containing status information about available zones, areas and license codes. Most CM-93 edition 3 charts require license codes. Without a license code only overview charts are displayed.

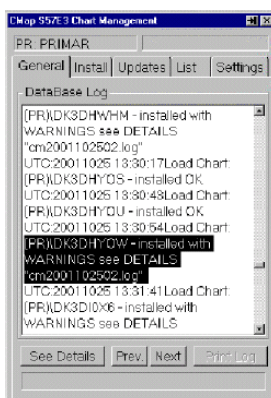
Registered Licences: A list of all licenses entered for CM-93 edition 3 charts. The list contains zone/area, expiry date and license code.

Output C-Map User ID to Floppy: Click the button to save the file containing the license codes to the selected device.

New License: To enter a new zone or area license, select the zone/area and enter license code as received from C-Map.

Add: Click the button to enter the license code into the system.

Status: The status field indicates if the license code was accepted or not.



Log submenu

Menu to view the database log file.

DataBase Log: Displays the contents of the log file including charts installed and applied updates.

See Details: Click the button to display detailed installation information for any selected chart. There is normally one details file for each installation batch.

Prev.: Click the button to scroll the log text to previous chart entry.

Next: Click the button to scroll the log text to next chart entry.

Print Log: Click the button to print the log file if the system is fitted with a printer.



Log submenu - details

Menu to view the database log file details.

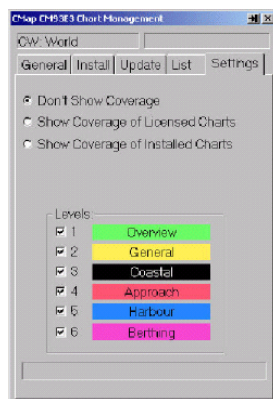
Installation Details: Displays detailed contents of the log file including charts installed and applied updates.

Return to Log: Click the button to return to the less detailed log display.

Prev.: Click the button to scroll the log text to previous chart entry.

Next: Click the button to scroll the log text to next chart entry.

Print Log: Click the button to print the log file if the system is fitted with a printer.



Coverage submenu

Menu to display chart coverage. Coloured rectangles with the size of the nominal chart cells are displayed. Note that for large-scale charts, the nominal rectangle will not correspond very well with the chart. Multiple harbour charts will be represented with a single coverage rectangle. Due to the semi-transparent technique that makes it possible to see the chart image through the colour, the colour will deviate from the pure colours shown in the menu.

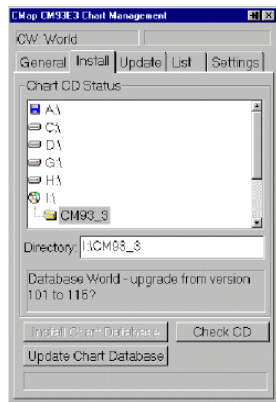
Don't Show Coverage: CM-93 edition 3 chart coverage display is turned off.

Show Coverage of Licensed Charts: Displays all CM-93 edition 3 chart you have licensed.

Show Coverage of Installed Charts: Displays all CM-93 edition 3 charts available in the database (licensed or not).

Levels: Select the chart levels to be displayed in coverage presentation. The colour code is used in the coverage presentation.

3.3.11.2 Install tab



Menu to install or update the chart database.

Chart CD Status: Directory tree used to locate the chart database on the CD-ROM or elsewhere. When a directory is selected, it is automatically checked to see if it contains a chart database, which is displayed in the text field below.

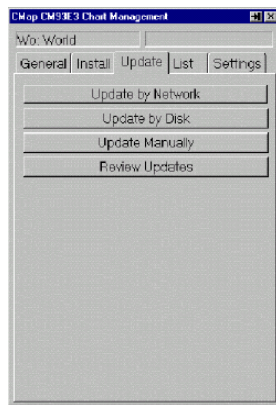
Directory: The directory the chart database is loaded from.

Check CD: Click the button to check for a CM93 edition 3 database on the CD.

Install Chart Database: Click the button to install the CM-93 edition 3 chart database from the CD-ROM. This can take 5 to 15 minutes.

Update Chart Database: Click the button to replace an installed CM-93 edition 3 chart database with a newer version. This can take 5-15 minutes.

3.3.11.3 Update tab



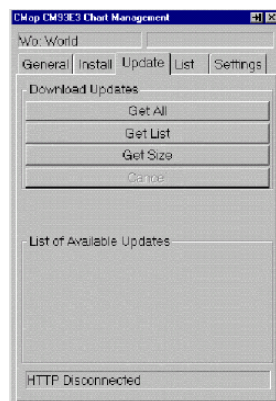
Menu to select how to update charts. Chart updates are received over some internet connections, by e-mail or by disks. When chart databases are reissued with a new version number, load it using the **Install** menu as described above.

Update by Network: Click the button to display the **Network Update** menu.

Update by Disk: Click the button to display the **Disk Update** menu.

Update Manually: Click the button to display the **Manual Update** menu.

Review Updates: Click the button to review chart updates.



Network update submenu

This menu is normally not available on the K-Bridge consoles.

Menu to download chart updates from the C-Map web site. Requires an internet connection.

Get All: Click the button to download all updates issued for the C-Map database.

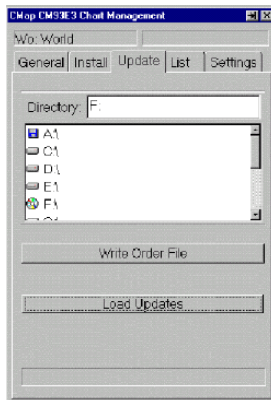
Get List: Click the button to download a list of all updates issued for the C-Map database.

Get Size: Click the button to display the size of the updates, to give an indication of the downloading time.

Cancel: Click the button to break the internet connection.

List Available Updates: Lists available updates when you have clicked the Get List button.

Status Field: The field displays communication status when connected to the internet.



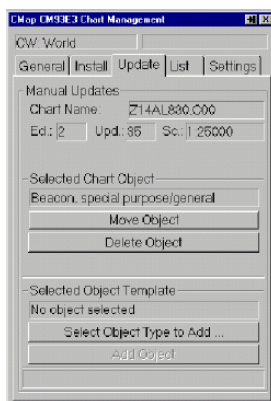
Disk update submenu

Menu to write chart orders to disk or load chart updates from disk.

Directory: Select disk drive and directory to write chart order file or for reading chart updates.

Write Order File: Click the button to write the order for chart updates to the selected directory.

Load Updates: Click the button to load updates received from C-Map from the selected directory.



Manual update submenu

Menu to manually insert chart updates.

Manual Updates:

- **Chart name:** Name of the chart to be updated.
- **Ed.:** Chart edition.
- **Upd.:** Chart update.
- **Sc.:** Chart scale.

Selected Chart Object: To move or delete an object point to the object and click **Object Info** on the operator panel. In the **Object Info** menu select **Change**.

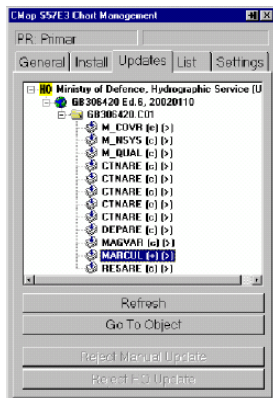
- **Move Object:** Click the button to display the **Object Modification** menu. This menu allows you to move objects through dragging or by entering a new position.

- **Delete Object:** To delete an object point to the object and click **Delete Object**.

Selected Object Template:

- **Select Object Type to Add:** Click the button to select an object type.

- **Add Object:** Click the button to add the object.



Menu to view installed chart updates.

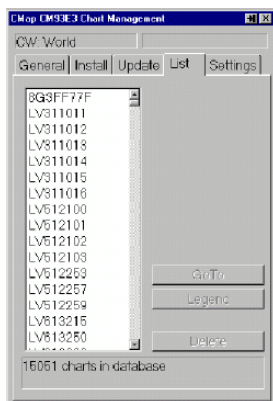
Refresh: Refresh the list of updates.

Go To Object: Select an object in the list and click the button to highlight it.

Reject Manual Update: Deletes selected manual update. If a dataset object is selected, all manual updates for this dataset are deleted. The update is retained for reference, but not displayed.

Reject HO Update: Will reject selected hydrographic office updates. If the chart object is selected, all updates in the chart are rejected.

3.3.11.4 List tab



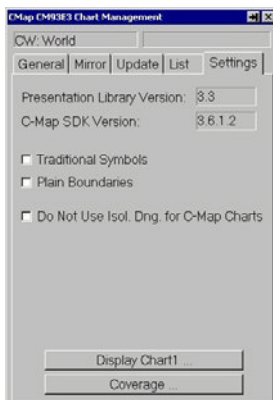
Menu to display charts available in the CM-93 edition 3 database.

List of Charts: Displays a list of all charts in the database.

GoTo: Click the button to go to the centre of the selected chart. The chart is displayed at nominal scale.

Legend: Click the button to display the legend for the selected chart.

3.3.11.5 Settings tab



Menu to display software versions and select symbol types.

Presentation Library Version: Displays the implemented version of the presentation library (chart symbols).

C-Map SDK Version: Displays the version of the C-Map software installed in the system. (SDK - Software Development Kit).

Traditional symbols: Select to display traditional chart symbols for chart objects. When not selected simplified symbols are used.

Plain Boundaries: Select to displayed charts with plain boundaries. When not selected chart areas are displayed with annotated boundaries.

Do Not Use S52 for C-Map Charts: When selected, dangerous objects are presented with normal cartographic symbols instead of S52 symbols to reduce clutter in low quality charts. Use it in special cases only.

Display Chart1: Click to display a resizable window showing chart symbols used. Use the drop down menu to select different views.

Coverage: Click to display the **Chart Coverage** menu.

3.3.12 S57 Edition 3 Chart Management

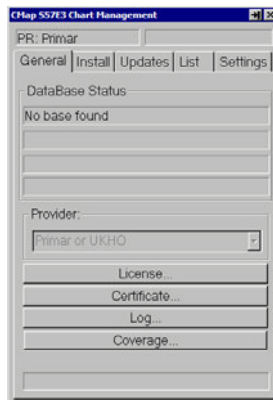
Handling of encrypted S57 data is different for each supplier. K-ECDIS currently supports the following S57 charts:

- Unencrypted charts and updates from Hydrographic Office.
- PRIMAR™ Official ENC Service.

Note _____

If you receive charts from Admiralty ENC-service or IC-ENC, these are handled just like PRIMAR™ charts.

3.3.12.1 General tab



Menu to display database status and provider information.

Data Base Status: Displays the name and status of the chart database.

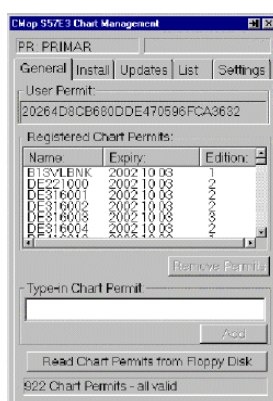
Provider: Chart database provider (PRIMAR™ or Hydrographic Office).

License: For encrypted databases. Click the button to insert your license code or chart permit.

Certificate: Click the button to display the current certificate used for this S57/S63 database or to install a new certificate.

Log: Click the button to display the **Database Log** menu.

Coverage: Click the button to display the **Chart Coverage** menu.



License submenu

Menu to work with chart permits. For unencrypted S57 chart databases licenses are not necessary. The description below is valid for PRIMAR™ charts.

User Permit: This 28 character code identifies your system. Provide it to PRIMAR™ to obtain your chart permits.

Registered Chart Permits: A list of all chart permits entered for this database. The list contains information about the licensed charts, their edition and the expiry date.

Remove Permits: Click to remove selected chart permits from the database. When permits are removed the system will issue an error message when the chart is displayed.

Type-in Chart Permit: Type in chart permits here. Each chart permit is a 64 character string.

Add: Click the button to enter the chart permit into the system. In most cases chart permits are loaded from disk.

3.10.10 Maintenance



Menu to view various maintenance related information and load new system software. This menu is not used for normal system operation. User password is required for some of the functions.

System Software Version: States the version of the installed software.

System ID: Identifies the K-ECDIS hardware.

Computer Name: Identifies the computer for networked systems.

Serial number: The K-Bridge has a six digit serial number (K-Bridge MFD SN.: 23xxxx). The K-Planning has a four digit serial number (K-Bridge-PL SN: 1xxx).

Global Palette: Select to use a global palette when several K-ECDIS and K-Radar units are connected together.

Upgrade System Software: Click the button to Upgrade System Software. Requires an upgrade CD-ROM.

Change Optional Components: Click the button to enable or disable optional components.

Reconfigure Chart Databases: Click the button to set priority, clean-up, add and remove chart databases.

Copy Log Decoding Program to Floppy: Click the button to go to the menu for saving the decoding program to the selected device. This program is necessary to read position log/voyage recordings from the selected device on another off-line PC.

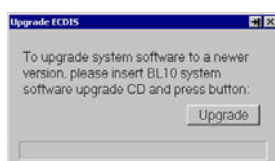
Colour Differentiation and Calibration: Click the button to display colour differentiation diagram or colour calibration diagram.

Install C-Map SDK: Click the button to install the C-Map SDK - Software Development Kit. This is normally only done during commissioning.

Configure Monitor: Click the button to select the type of monitor installed in the system.

Backup/Restore: Click the button to start backup or restore of routes/user/registry/log.

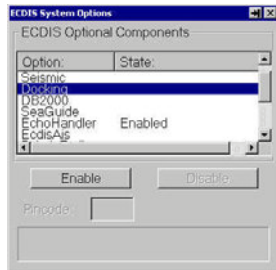
3.10.10.1 Upgrade System Software



Menu to install new versions of the K-ECDIS software.

Upgrade: Insert the CD-ROM into the drive and click the button to start the upgrade.

3.10.10.2 Change Optional Components



Menu to enable or disable optional software components.

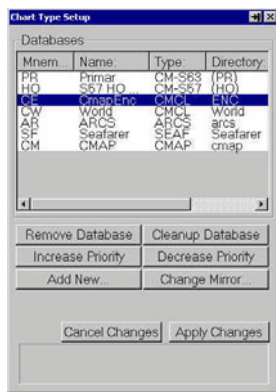
ECDIS Optional Components: List of available optional components. Select the option you want to enable or disable.

Enable: Click the button to enable the selected option.

Disable: Click the button to disable the selected option.

Pincod: Type in the **Pincod** provided by to enable the option.

3.10.10.3 Reconfigure Chart Databases



Menu to set priority, clean-up, add and remove chart databases, K-ECDIS can have a number of chart databases active at any time. Each database is identified by a two letter mnemonic:

- CM C-Map
- PR Primar
- AR ARCS
- CW World
- HO S57 HO data
- CP C-Map Professional+
- CE C-Map ENC

In the **Zoom** menu this mnemonic precedes the chart scale. If two databases have a chart of the same scale, the database with the highest priority will have its chart first in the chart table.

Databases: A list of all chart databases in the system. The highest priority is at the top of the list. The two letter mnemonic can be edited by double-clicking it and typing in a new mnemonic.

Remove Database Click the button to remove the selected database from the system. This is not normally done unless there is little hard disk space left. The action will also remove all licenses related to the database.

Cleanup Database: Click the button to remove all charts in the selected database, without removing the database from system.

Increase Priority: Click the button to increase the priority of the selected database. The database moves upward in the table.

Decrease Priority: Click the button to decrease the priority of the selected database. The database moves downward in the table.

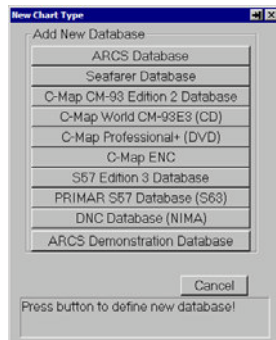
Add New: Click the button to go to the **New Chart Database** menu.

Change Mirror: Is used to mirror CM-93 Edition 2 or 3 databases from another K-ECDIS system on the bridge network. Click the button to go to the **Chart Database Mirror** menu.

Cancel Changes: Click the button to cancel the changes. Cleaned up or removed databases cannot be brought back!

Apply Changes: Click the button to write the changes to the hard disk. In order for these changes to take place you will need to restart the system.

New Chart Database



Each button will add a new entry to the database list with a default name and mnemonic.

ARCS Database: Add a new database for ARCS raster charts from UKHO or one of their distributors. Note: you are only allowed to have **one** ARCS database in the system.

Seafarer Database: Add a new database for HCRF (raster charts) from Australian Hydrographic Office.

C-Map CM-93 Edition 2 Database: Add a new database for CM-93 Edition 2 charts. Note that this is the OLD C-Map format which is now rarely used. The main reason for using this is to provide charts for old DataBridge2000 radars.

C-Map World CM-93E3 (CD): This is the main C-Map unofficial chart database, providing coverage worldwide with vector data. Use this if you only have a CD-drive on your console.

C-Map Professional+ (DVD): This is the same as the C-Map World database above. However, due to the additional space on the DVD, this database contains additional charts and other material. Use this if you have a DVD-drive on your console.

C-Map ENC: This is official charts from hydrographic offices that are distributed by C-Map as so-called "SENC".

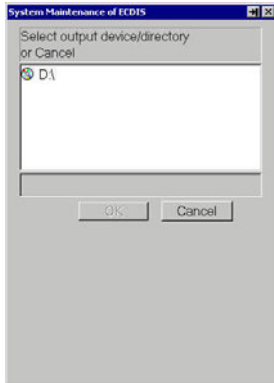
S57 Edition 3 Database: This database type should be used if you receive **unencrypted** S57 data from a hydrographic office. You should normally have one database for each separate distribution.

PRIMAR S57 Database (S63): Add a new database for installing chart data **encrypted** according to S63 from Primar or IC-ENC or from a national hydrographic office. You should normally have one database for each separate distribution.

DNC Database (NIMA): Add a new database for storing charts belonging to the DNC product. You should have one separate database corresponding to each DNC region. Please note that DNC databases require a special pincode from Kongsberg Maritime in order to be used.

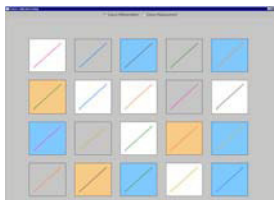
ARCS Demonstration Database: This will install a demonstration database with ARCS charts etc. This should not be used on operational K-ECDIS'es. Adding this database will exclude the normal ARCS database from being added.

3.10.10.4 Copy Log Decoding Program to Floppy/selected device



All removable output devices are displayed. Please select the one where the log decoding program should be written and click **OK**.

3.10.10.5 Colour Differentiation and Calibration



The colour differentiation and calibration dialog allows you to check the colour reproduction quality of your ECDIS system.

Before checking this, the monitor should be set to the calibrated state. Then, for each palette the foreground line should be clearly visible against the coloured background. Before checking the night palettes (on dark bridge), allow your eyes to adapt to the darkness at least 10 minutes. If foreground and background colours cannot be differentiated, you should contact the Kongsberg Maritime service department.

3.10.10.6 Install C-Map SDK



Menu to install C-Map software into the system. (SDK - Software Development Kit).

The C-Map SDK installation dialog allows either eToken licensing or the traditional licensing using a computer "fingerprint" file. eTokens are hardware dongles obtained from C-Map plugged into a USB port on the computer.

When eTokens are used, only the number of the eToken must be reported to C-Map in order to get a license, while in the "fingerprint" case, the "fingerprint" file ("user.usr") must be e-mailed to C-Map in order to obtain a license.

DB: Insert the serial number of the system here. The serial number is found on the left side, inside the console. Select Reinitialize Licence to be able to insert the serial number.

Reinitialize Licence: Select to allow inserting of the serial number.

Install: Click to install the C-Map software into the system.