



Fact Sheet: AusENC

Installing, updating and renewing the AusENC Service

This guide provides detailed information about the AusENC Service. Its purpose is to assist in understanding:

- The relationship between all the component parts of the AusENC service
- How to set up a new or renewed subscription
- How to apply Update datasets to the latest Base dataset
- What to do when it's time to renew.

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AusENC SERVICE DESCRIPTION

Why is updating AusENC important?

Safety: Charted information significant to navigation regularly changes and these changes are issued as AusENC updates. Maritime safety updates can include changes to:

- port infrastructure including new port developments
- navigational marks and lights
- dredged and other charted depths
- cables and pipelines
- pilotage areas, anchorage areas and restricted areas
- conspicuous landmarks
- new reported dangers to surface navigation such as shoals, obstructions and wrecks.

By loading each published AusENC update (and any corresponding ENC permits) promptly onto your navigation system you can sail with confidence knowing that your AusENC is as up-to-date as possible for navigationally critical information and are safe to use.

Compliance: The following vessels are required to carry up-to-date official nautical charts and nautical publications in order to comply with regulations:

- All vessels required to meet Safety of Life At Sea (SOLAS) Chapter V regulations covering the carriage of electronic charts and Electronic Chart Display Information Systems (ECDIS).
- Most commercial vessels 12m or more in length engaged in Australian domestic commercial vessel operations required to meet National Standards for Commercial Vessels (NSCV) regulations.

What type of updates are included in AusENC?

AusENC updates include:

- Navigationally significant maritime safety updates for any of the ENC in your packs, including all Permanent, Temporary and Preliminary Notices.
- New editions of ENC already included in your packs.
- New ENC added in the geographical area covered by your packs. This includes both new editions of existing ENC, as well as newly published ENC falling within the extent of one or more of your subscribed packs, supplied at no additional cost.
- Updates are also used to cancel withdrawn ENC.

AusENC Packs

Users can choose to subscribe to some or all of the ENC produced by the Australian Hydrographic Office (AHO), and the two major ENC packs produced by the New Zealand Hydrographic Authority. To meet requirements for different areas of coverage, the ENC are available in packs that range in size from a single port, to all of Australia. For more information, please refer to the AHO website.

What are the main components of the AusENC service?

The AusENC service consists of two primary datasets:

- a 'Base dataset' issued in January and July,
- 'Update datasets' issued on all intervening fortnights.

All other components of the service enable users to make use of those Base and Update datasets for the ENC they require within their navigation system.

The following table describes all the component parts of the AusENC service:

Component	Description	Source and Timing
Base dataset	At the fortnight of issue, the Base dataset includes the most up to date version of every ENC in the AusENC portfolio (900+ ENC). Total dataset size is 200-300mB. The specific ENC you can access is controlled by the ENC Permits.	Every six months via AusENC as follows: <ul style="list-style-type: none"> • Friday Week 01 (Jan) and • Friday Week 27 (July)
Cumulative Update dataset	Contains all updates issued since the latest base dataset release. Dataset size may grow to 20-30mB by end of Base dataset period.	Each Friday fortnight on odd calendar weeks, except when this coincides with a new Base dataset.
AusENC update notification email	Provides comprehensive information about the latest Base or Update release and instructions on what to do. It includes: <ul style="list-style-type: none"> • A single AusENC Update Report relevant to all of your individual subscriptions and packs, covering whether there are updates to existing ENC, any new or replacement ENC or any withdrawn ENC in your packs. • ENC permits for new or replacement ENC within your subscribed packs. 	Each Friday fortnight in conjunction with release of Base and Update datasets.
ENC Permits	Used by your navigation system to unlock access to the encrypted AusENC Base and Update datasets during the subscribed period for the subscribed packs. Each time permits are issued they contain the latest for every ENC contained within <u>all</u> your active AusENC pack subscriptions for a particular system. If you have AusENC subscriptions for multiple navigation systems, you will receive a separate set of ENC permits for each system (S-63 User Permit).	Supplied by email from AHO: <ul style="list-style-type: none"> • When you establish or renew your AusENC subscriptions or add a new pack. • Attached to your fortnightly AusENC update notification as required.
Incremental Update dataset	Contain updates that relate to an individual fortnightly release. They are appropriate for navigation systems that automatically poll the AHO website, or for those users with extremely limited bandwidth.	Each Friday fortnight on odd calendar weeks, except when this coincides with a new Base dataset.
Chart Service Certificates	List all AusENC pack subscription and expiry details for a single navigation system / S-63 user permit. Users with multiple systems will receive separate certificates for each system. Regulated vessels subject to an inspection regime may use Chart Service Certificates to demonstrate the currency of their navigation portfolio, when used in conjunction with a record of updates, until the 'Licensed to' date shown.	Supplied by email from AHO: <ul style="list-style-type: none"> • When you establish or renew your AusENC subscriptions. • When you purchase an additional pack during a subscription.

What are the main components of the S-63 Data Protection Scheme?

Almost all national hydrographic offices use the IHO S-63 Data Protection Scheme.

The key function of the scheme is to ensure that ENC are not corrupted between release by the hydrographic office and using it in your navigation system.

The following table describes all the component parts of the data protection scheme:

Component	Description	Source and Timing
S-63 User Permit	<p>A 28 character alphanumeric code created by your system manufacturer and provided to you when you purchase your navigation system. You must use this code when ordering your ENC service.</p> <p>Your S-63 User Permit is used to create ENC permit files (PERMIT.TXT, ENC.PMT) that will unlock the encrypted ENC that you purchase.</p>	Upon purchase of your navigation system.
S-63 Scheme Administrator Certificate	<p>An authentication file used by your system to ensure it recognises that the ENC you are loading have come from an official source.</p> <p>If a producer is not included on this certificate (IHO.crt), then your system will not accept anything supplied by that producer.</p>	Included on AusENC Base datasets and disks and from the International Hydrographic Organization website.

QUICK GUIDE

How to set up the AusENC Service

New subscribers or those re-subscribing to the AusENC service will need:

- An 'S-63 User Permit', contact and subscription details. Forward these details to the AHO - your AusENC distribution agent will normally do this for you,
- An 'S-63 Administrator Certificate' - included in the AusENC Base dataset / disk, or from the IHO website,
- ENC permits - sent by AHO,
- Base dataset - downloaded from the AHO website or on disk from your AusENC distribution agent,
- Cumulative Update dataset, issued on all fortnights except Base release fortnights - downloaded from the AHO website or on disk from your AusENC distribution agent.

To install your Base and Update datasets:

- Install your 'S-63 Administrator certificate' – first time users only,
- Delete all old data and permits,
- Load your ENC Permits, Base dataset and cumulative Update dataset - methods vary between different navigation systems, check your system manual,
- Retain latest ENC Permits, Base dataset and cumulative Update dataset.

How to update the AusENC Service

The following instructions apply if you are a new subscriber or re-subscribing to the AusENC service:

- Review your AusENC update notification and attached report - sent by AHO,
- Download the latest cumulative Update dataset - if the report indicates there are updates applicable to ENC in your subscribed packs,
- Copy / paste the replacement ENC Permits into your navigation system - Permits will be sent by AHO if there are new or replacement ENC in your subscribed packs,
- Load the latest Cumulative Update dataset - some navigation systems will automatically poll the AHO website and apply the latest Incremental Update dataset,
- Retain latest Permits, Base dataset and cumulative Update dataset.

Subscription expiry and renewal

You **should not** use AusENC packs with expired subscriptions as you will not be able to apply navigational critical updates. IHO S-63 compliant navigation systems should also issue warnings prior to subscription expiry.

Your fortnightly AusENC Update report will include expiry notifications as for each subscribed pack:

- Four weeks and two weeks before expiry – affected packs highlighted orange,
- Two weeks after expiry – affected packs highlighted red,
- More than two weeks after expiry – expired packs no longer listed.

AusENC TECHNICAL SUPPORT

If you need help with installing updates on your navigation system you should contact your system manufacturer or system distributor.

If you are experiencing problems with the AusENC data or have misplaced your latest AusENC permits and need them resupplied, please contact the AHO via email.

AHO Technical Support	hydro.sales@defence.gov.au
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DETAILED GUIDE

The following sections provide additional detail for each step listed in the Quick Guide. In applying this additional information please follow the sequence of steps listed in the Quick Guide.

Acquiring an S-63 User Permit

Each separate system will have its own S-63 User Permit. This identifies each system within your subscription with the AHO; allowing up to five separate systems (five separate S-63 User Permits) in each vessel to be loaded with ENC under a single subscription.

Your S-63 User Permit is a 28-character alpha-numeric code created by your system manufacturer and provided to you when you purchase your navigation system. This code must be quoted when ordering your ENC service.

Your S-63 User Permit will be used to create ENC permit files (PERMIT.TXT, ENC.PMT) that will unlock the encrypted ENC in that specific navigation system.

Acquiring an S-63 Scheme Administrator Certificate

To use AusENC, your navigation system must have the 'S-63 Scheme Administrator certificate' (IHO.crt) installed. The 'Primar certificate' (PRIMAR.crt) will not work with AusENC.

Some manufacturers supply the 'S-63 Scheme Administrator (SA) certificate' with their software or provide a website link to the certificate in their system documentation. A copy of the IHO S-63 SA certificate is included on each AusENC Base dataset under the directory called 'EXTRAS'. If you wish to independently download the IHO S-63 SA certificate go to:

www.iho.int/iho_pubs/standard/S-63/S-63_SA_Certificate.htm

Acquiring ENC Permits

ENC Permits are required to enable installation of the AusENC service on your navigation system. These are sent to you by email from the AHO once your AusENC subscription order has been processed. This normally occurs within two working days of your order being received.

- Check your email inbox for an email with the subject heading beginning "*AusENC Permits and Chart Service Certificate*". Your AusENC permits will be attached to this email in a file called 'ENC.ZIP'.
- Open the ENC.ZIP file.
 - **Single systems:** If you have an AusENC subscription for one system/S-63 User Permit you will find one folder labelled with this S-63 user permit. Open this folder to find your permits called ENC.PMT and PERMIT.TXT.
 - **Multiple systems:** If you have AusENC subscriptions for multiple systems/S-63 user permits, you will find multiple folders, one for each system, labelled with its unique S-63 User Permit. Open each of these folders and you will find ENC Permits that match the S-63 User Permit. The permits are called ENC.PMT and PERMIT.TXT. ENC Permits will only work on the system with the matching S-63 User Permit so it is important that you can identify which set of ENC Permits correspond to each system/S-63 User Permit.

Even though ENC.PMT and PERMIT.TXT are supplied, your system will only use one type of ENC Permit file. Consult your system manual to find out whether it requires the ENC.PMT or the PERMIT.TXT file and copy the corresponding file ready for loading on your system. If unsure, copy both file types.

If AusENC permits are not received in a timely manner, check your 'Junk' inbox. If not there, contact your AusENC Distributor.

Acquiring AusENC Base and Update datasets

Your AusENC data can be acquired as follows:

- **Option 1** – By manually downloading the latest Base and Update datasets from the 'AusENC' section of the Product Downloads page on the AHO website. This is the normal method for standard subscribers.

AHO website Product Downloads Page	www.hydro.gov.au/webapps/jsp/downloads/products.jsp
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- **Option 2** - Base dataset and latest cumulative Update dataset on the CD received from your AusENC distributor at order placement.
 - AusENC Distributors normally have the latest AusENC base and update CDs in stock to supply to new subscribers upon request.
 - Update CDs supplied from AusENC Distributors are always cumulative updates.
- **Option 3** - By automatic download (from the 'AusENC' section of the Product Downloads page on the AHO website) if you have automatic download capable navigation system.

- Choose a file format to download – options are:

	ISO Disc - Recommended if your system requires loading from CD. This type of file requires minimal user intervention to burn the data to CD using common CD writing software.
	Compressed.ZIP - Recommended if your system does not require loading from CDs. Used for systems that allow data to be loaded from portable memory sticks/portable storage devices or from a networked file location that your system can access.

- Download AusENC datasets as follows:
 - Base and Update datasets must be copied and stored in their own original, unique folder structures to work correctly on your system.
 - If copying to a portable memory stick/portable storage device or to a networked file location, consult your system manual to find out if your system requires you to copy base and update datasets to specific folder names or to specific file locations.
 - i. Download the 'AusENC Base' by selecting either the ISO disc image or compressed.ZIP icon and save to your desired file location.
 - ii. Download the 'Cumulative AusENC Update' (if available on the page) by selecting either the ISO disc image or compressed.ZIP icon.
 - Select the 'Instructions' icon on the Product Downloads page for detailed instructions for creating AusENC base and updates on CD.
 - If copying to a portable memory stick/portable storage device or to a networked file location, consult your system manual to find out if your system requires you to copy base and update data to specific folder names or to specific file locations.

Removing old ENC and ENC Permits

If you are a first time ENC user this step is not required. However, once you have renewed your subscription, you may find that your system has stored AusENC base and update data in multiple file locations. You must remove AusENC data from each location - consult your system manual and remove (delete) all:

- Previously loaded AusENC Base and Update datasets,
- Previously loaded ENC permits.

Installing the AusENC service

The procedure for loading ENC, including AusENC, into navigation systems varies from system to system.

The Base dataset contains all ENC published in the AusENC Service.

Depending on your system, you may have to install all ENC from your Base and Update datasets or have the option to install just the ENC contained within the subscribed packs.

Depending on your system and the number of ENC to be installed, installation of the Base dataset may take some time.

Your fortnightly AusENC Update Notification Email

Your update notification will have the subject heading “AusENC Week XX Base data available” or “AusENC Update Week XX Update data available” where ‘XX’ is the number of the calendar week.

Your notification email will:

- Advise the calendar week number of the AusENC update expressed as “AusENC Week XX”,
- Advise if base or update data has been released,
- Always have your AusENC Update Report attached,
- Have replacement ENC permits attached if your packs included newly added ENC or new editions,
- Include instructions on how to update your service.

If you don't receive your notification:

- Check your ‘Junk’ inbox,
- Check the expiry date of your subscriptions. You can do this by referring to your AusENC Chart Service Certificates or by referring to the last AusENC update report received.

If your subscriptions have not expired and you can't find your notification, contact the AHO at hydro.sales@defence.gov.au to arrange for it to be re-sent.

Your fortnightly AusENC Update Report

Your report includes:

- A single report applicable to as many systems as are included in your AusENC subscription,
- Your S-63 user permit(s) applicable to your navigation system,
- An indication that updates have been applied to one or more ENC within your subscribed packs - indicating that you should download and install the latest update,
- An indication that new ENC Permits are applicable for your subscribed packs - permits will be a separate attachment to the email,
- Expiry date of your pack subscriptions,
- Details of new ENC and new editions of existing ENC added to your subscribed packs,
- Details of any ENC cancelled from within your subscribed packs.

Dear AusENC Customer

It is important to ensure all ENC's in use are updated via a valid (and regular) update service to remain navigationally safe. Additionally if you use AusENC to meet requirements governing navigation on international or Australian domestic commercial vessels you will **not** be compliant if you do not keep the ENC's you navigate on updated.

The table below lists the update status of your AusENC subscriptions for **Week 50-2022**.

S63 User Permit	New Cell Permits	Updates to Packs	AusENC Pack	Expiry Date
ABF2F41335869009E60B818F3132	Yes	Yes	CST14	31/10/2023
			CST15	31/10/2023

New Cells, New Editions and Pack Updates

Cell	Cell Title	Edition	AusENC Pack
AU130120	Australia - Northern Approaches	17	CST14 CST15
AU220120	Australia - Indonesia - Timor Sea	10	CST14 CST15
AU412131	Timor Sea - Dundas Strait	6	CST14 CST15
AU413130	Northern Territory - Approaches to Darwin	26	CST14 CST15
AU413131	Northern Territory - Chambers Bay	5	CST14 CST15
AU414136	Northern Territory - Groote Eylandt to Cape Grey	3	CST15
AU5025X6	Australia - Northern Territory - Darwin and approaches	13	CST14 CST15

Cancelled Cells - Nil

Updated Cells

The current update status of cells within each AusENC pack (edition number and update number) is available on the AHO website at <http://www.hydro.gov.au/prodserv/digital/ausENC/pack-index.htm>.

Receiving replacement ENC Permits

If your AusENC Update Reports states 'Yes' to 'New ENC Permits' (or 'New Cell Permits') for any of your S-63 user permits, an ENC.ZIP folder will be attached to your notification email.

New ENC Permits will be supplied:

- Upon release of a new ENC that has been automatically added within one or more of your subscribed packs,
- Upon release of a new edition of an existing ENC within one or more of your subscribed packs,
- If an existing ENC has been withdrawn without a direct replacement from within one or more of your subscribed packs (such as when a new ENC has a different name to the one it replaces).

To load the replacement ENC Permits you should follow the same procedure for the ENC.ZIP folder (containing the ENC.PMT and PERMIT.TXT files) as followed for '**Acquiring your ENC permits**'.

However, when loading replacement ENC Permits within your current subscription period you should not need to delete all old ENC and ENC Permits first – the installation process should do this for you for the relatively few that are actually being replaced.

If your update report states 'Yes' to 'New ENC Permits', but no ENC.ZIP file is attached, contact the AHO at hydro.sales@defence.gov.au .

Choosing between use of cumulative and incremental Update datasets

The AHO recommends all users manually applying updates use the 'cumulative Update datasets'. These grow over time following release of a new Base dataset.

A cumulative Update dataset will include all fortnightly updates and ensure they are loaded sequentially. This is essential – installation of updates to an individual ENC in the wrong sequence or with gaps in the versioning sequence, will result in an update failure. Use of cumulative Updates avoids this potential problem.

Once a Base dataset has been in use for almost six months, the cumulative Update dataset may have grown to 20 to 30 mB. This is considered a reasonable maximum file size that governs the AHO practice of two Base datasets per year.

However, users with extremely limited bandwidth or those able to make use of automated polling by their system to acquire and install updates may find the 'incremental Update datasets' more appropriate. These are generally no more than 6 mB each fortnight.

If a few incremental Updates have been missed, the most effective method to catch up is to manually download and install the latest cumulative Update, then return to the incremental Updates if desired.

How to check that all updates have been applied on your system

An ECDIS maintains an internal list of updates and the date of installation. To highlight updates on the navigation screen, make sure all layers are displayed on your navigation system.

The update history of individual ENC can be manually interrogated and either displayed on screen or printed out. To do this, refer to your system manual.

This can be compared to the 'ENC Cell Lists' on the AHO website. These list each ENC, including 'Edition number' and 'Update number'. If you have the latest version of an ENC installed on your system Edition number and Update numbers will match.

AU ENC Cell List	http://www.hydro.gov.au/webapps/jsp/charts/enclist.jsp
PG ENC Cell List	https://www.hydro.gov.au/webapps/jsp/charts/PGenclist.jsp
SB ENC Cell List	https://www.hydro.gov.au/webapps/jsp/charts/SBenclist.jsp

What to keep for backup purposes

Retain only the following for backup purposes:

Your latest Base dataset.
Your latest cumulative Update dataset which corresponds to your latest Base dataset (or all incremental updates since the most recent Base dataset).
Your latest AusENC permits for each navigation system/S-63 user permit. This is because each time ENC permits are issued they contain the latest permits for <u>every</u> ENC contained within <u>all</u> your active AusENC packs for a particular system/S-63 User Permit.

If you intend to retain CDs for backup purposes, it is important to label them with versioning details, and whether they are Cumulative or Incremental Updates, as errors will be experienced if Update data is applied to the wrong Base dataset.

The following labelling is recommended for CDs:

Base dataset / CD	Specify 'Base' and issue week and year. <i>Example: 'Wk 01-2023 Base'</i>
Update dataset / CD	Specify 'Update' and issue week and year, the type of update and the Base issue week and year the update relates to. <i>Examples: 'Week 03-2023 Cumulative Update - Relates to Week 01-2023 Base'</i> <i>'Week 05-2023 Incremental Update - Relates to Week 01-2023 Base'</i>

Subscription expiry and renewal

You should not use AusENC packs with expired subscriptions. as you will not be able to apply navigational critical updates. IHO S-63 compliant navigation systems should also issue warnings prior to subscription expiry.

Your fortnightly AusENC Update Report will include expiry notifications as for each subscribed pack:

- Four weeks and two weeks before expiry – affected packs highlighted orange.
- Two weeks after expiry – affected packs highlighted red.
- More than two weeks after expiry – expired packs no longer listed.

Example 1: Two updates before pack expiry date.

The table below lists the update status of your AusENC subscriptions for **Week 46-2022**.

S63 User Permit	New Cell Permits	Updates to Packs	AusENC Pack	Expiry Date
AB7983055FB95D19380168AC93231	Yes	Yes	AUST1	30/11/2022

Example 2: Update released one update after pack expiry date.

The table below lists the update status of your AusENC subscriptions for Week 50-2022.

S63 User Permit	New Cell Permits	Updates to Packs	AusENC Pack	Expiry Date
AB7983055FB95D19380168AC93231	Yes	Yes	AUST1	30/11/2022

AusENC users also using another ENC service

Australian, Australian Antarctic Territory and Timor Leste (AU), Papua New Guinea (PG) or Solomon Islands (SB) ENC are also included in a number of ENC services offered by the IC-ENC distribution network (such as AVCS) and PRIMAR.

The selected NZ ENC packs in the AusENC service are a subset of those included in the NZ ENC service and similarly available through the IC-ENC and PRIMAR networks.

The AusENC service is optimised for use in isolation from any other ENC services – it is a local service.

If you are moving to the AusENC service from another service, refer to the start of this Fact Sheet and follow the installation process – removing old ENC Permits is an integral part of the installation process.

For those users seeking to merge coverage in the AusENC service with ENC from other nations available via other services, the recommended approach is to use one of the several 'global' services listed on the IC-ENC and PRIMAR websites.

If you are intending to use the AusENC service in combination with other ENC services and you already have identical AU, PG, SB or NZ ENC and corresponding ENC Permits loaded, additional steps must be taken. These will address the possibility of experiencing data versioning errors and system warnings associated with duplication of data and versioning differences arising from differing update timeframes through different services.

To address these possibilities, the following is recommended:

- Identify which service will be your primary service and which will be your secondary service.
- Thereafter, load ENC Permits for all ENC from the primary service and stick to this choice for the duration of your parallel subscriptions – do not load the duplicated ENC Permits from the secondary service.
- The primary service should be the one with the greatest number of subscribed AU, SB, PG or NZ ENC in order to minimise the number of ENC Permit deletions required during the next step.
 - For example, if your AusENC service includes a subscription for an Australia pack (all AU ENC) and the other service includes only a few AU ENC, it will be more efficient to make AusENC your primary service and exclude loading ENC Permits from the other service.
- Look for matching ENC filenames listed in either both service's PERMIT.TXT files or ENC.PMT files.
- Remove all duplicated ENC Permits and duplicated ENC loaded on your navigation system that are from the secondary service. You must do this every time you receive a replacement PERMIT.TXT and ENC.PMT file from the secondary ENC service. Some navigation systems

will allow you to exclude permits in their permit load dialogue box. Consult your system manual for instructions.

- Load Base and Update data and all ENC Permits in your primary service. Load Base and Update data and all non-duplicated ENC Permits in your secondary service.

A simple way of identifying ENC subscribed in both services is to look for matching ENC filenames listed in both service's PERMIT.TXT files or both service's or ENC.PMT files. These files can be opened in Wordpad or a similar text editor. The first eight alphanumeric characters (letters and numbers) on each row of text represents the file name of an ENC.

File Name	Expiry Date	Rest of permit
AU130120	20230331	E6B58407ABB63A85E6855DA3C129732C13E18A4DA7AD057D,0,9,AU