Cochran
UNDERSEA TECHNOLOGY
A Division of Cochran Consulting, Inc.

Diving Into The 21st Century

NAVY
NSW HE III 200-1.3
DIVE COMPUTER
Manual

English Language - Imperial Units

Version 001i
04 June 2010

USER INFORMATION
For your records, please fill in the following information.

SERIAL NUMBER OF UNIT: _____
DATE OF PURCHASE:_____
PLACE OF PURCHASE:_____
ADDRESS:_____
CITY :_____
STATE:_____ ZIP CODE :_____
PHONE NUMBER:_____

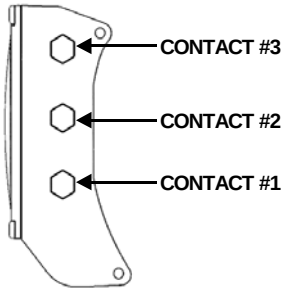
Introduction

The NAVY NSW HE III 200-1.3 Dive Computer ('NAVY NSW HE III 200-1.3") is quite simple to use and operate. For the safest and most effective use of this instrument, it is important that the user fully understand the product. Please read and understand this entire manual before using this device. By using the 'NAVY NSW HE III 200-1.3', the diver specifically acknowledges that he has been adequately and thoroughly trained and certified to engage in Constant PO_2 diving.

Operating Modes of the 'NAVY NSW HE III 200-1.3":

Surface Mode
Subsurface Mode
Decompression Mode
PostDive Interval Mode
Sleep Mode

Side Contacts



For identification purposes, put the 'NAVY NSW HE III 200-1.3' face up in the orientation that allows the display, display bezel, and product name to be read. There are three contacts on the right side of the unit. The closest contact toward the bottom of the display is Contact 1; the middle contact is Contact 2, while the contact farthest away at the top of the display is Contact 3. Contacts are used to:

- **Turn the unit on by sensing wetted Contacts 1 & 2;**
- **Communicate with the ANALYST® PC Interface via Contacts 1 & 2 & 3.**

It is important that the Contacts be kept clean and dry when the computer is not in use. Do not use solvents. Use only clean, fresh water.

Turning On The 'NAVY NSW HE III 200-1.3"

Although the 'NAVY NSW HE III 200-1.3' automatically turns on when it is submerged in water, it is STRONGLY recommended that the unit be manually powered up by wetting two fingers and simultaneously touching Contacts 1 and 2 just prior to a dive. This allows the diver to ensure that the unit is operating correctly and has adequate battery capacity prior to entry. Once activated, the unit will remain on for 60 minutes. If a dive is not initiated within 60 minutes, the 'NAVY NSW HE III 200-1.3' automatically shuts off.

The 'NAVY NSW HE III 200-1.3' will not turn on if the battery voltage is less than approximately 2.1 volts.

As the 'NAVY NSW HE III 200-1.3' first recognizes a turn-on command, it begins a "Diagnostic" function where many aspects of the system will be exercised and tested. This procedure takes about five seconds. During this time, all of the segments in the display are turned on so their operability can be confirmed. The user should ensure that all of the display segments are on and operating correctly. Should a test indicate a malfunction or marginal test, the unit will turn back off.

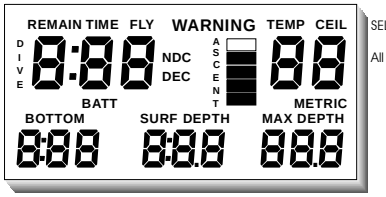


Figure 1
SELF DIAGNOSTIC DISPLAY
All Segments Illuminated

Turning Off The 'NAVY NSW HE III 200-1.3'

After a dive, the 'NAVY NSW HE III 200-1.3' will remain on for 90 minutes before automatically entering its "Sleep Mode". The 'NAVY NSW HE III 200-1.3' will automatically turn off once all residual nitrogen outgassing has been completed.

Warning Indications

Failure to observe visual warnings and take corrective action may result in injury or death.

The NAVY NSW HE III 200-1.3 the audible beeper has been disabled, therefore the Warnings will be visual only.

- If the unit ascends faster than the selected maximum ascent rate, the hollow bar of the ascent bargraph will flash and the "WARNING" legend will illuminate until the situation is corrected.
- If the unit descends below the user set Depth Alarm, the "WARNING" legend will illuminate and flash along with the Depth digits. The Depth alarm is not active in the Decompression Mode to avoid confusion with the "Shallower Than Ceiling" alarm.
- If the diver has less than two minutes of a No-Decompression Time remaining, the "WARNING" legend will illuminate and flash along with the Remaining NDC time digits.
- During a Decompression dive, if the Depth is less than the CEILING, the "WARNING" legend will illuminate and flash along with the Depth and Ceiling digits and will continue until the situation is corrected.

TACLITE™

The 'NAVY NSW HE III 200-1.3' is equipped with the TACLITE™ tactical low-light fiber-optic back lighted display. The TACLITE™ can be activated on demand. To turn the TACLITE™ on, tap the face of the 'NAVY NSW HE III 200-1.3" and the TACLITE™ will turn on for the preprogrammed number of seconds (1 to 98), and then turn off. By tapping the face again the TACLITE™ will turn on again. In this fashion the TACLITE™ can be kept on for as long as wanted. The TACLITE™ will turn off when the 'NAVY NSW HE III 200-1.3" turns off. If 0 is entered the TACLITE™ will never turn on, if 99 is entered the TACLITE™ will only turn off when the 'NAVY NSW HE III 200-1.3" does. The number of seconds that the TACLITE™ stays on is settable via the Programming Mode or via the ANALYST® PC Interface, factory setting is 30 seconds.

Constant PO_2

The 'NAVY NSW HE III 200-1.3' computes using "Constant PO_2" as found in closed-circuit rebreathers.

The Partial Pressure of Oxygen (PO_2) is set to 1.30 ata below 33 fsw and 0.70 ata above 33fsw on descent and 12 fsw on ascent.

Surface Mode- PO2 Mode

At the completion of the Self-Diagnostic mode or after the PostDive Interval following a dive, the 'NAVY NSW HE III 200-1.3" enters the Surface Mode. The Surface Mode has two screens, a Primary Screen and an Alternate Screen. You may switch to the Alternate Screen by rotating the wrist quickly or tapping firmly on the face of the WU. The Primary Screen displays, if applicable: current Surface Time, the previous dive's Maximum Depth, the previous dive's Bottom Time, the time till desaturation, and Temperature. The Alternate Screen displays the current PO_2 set point value, and current battery voltage. Figure 2 shows the display with no residual nitrogen (a clean dive). Figure 5 shows the display with residual nitrogen (a repetitive dive). Figure 2a shows the alternate screen for both with and with out residual nitrogen.

"Surface Time" starts at zero immediately after a dive and begins counting minutes. It the computer shuts off (enters Sleep Mode) and is turned on with nitrogen residual left, the Surface Time will continue to count. If the computer shuts off and is turned on with no nitrogen residual left, the Surface Time will be zero.

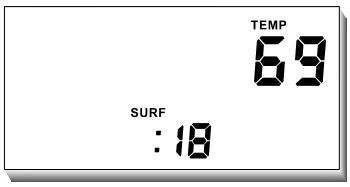


FIGURE 2
SURFACE MODE DISPLAY
Primary Screen
Constant PO2 Mode
No Nitrogen Residual

Altitude	< 2k feet
Temperature	69 f
Surface Time	18 mins
Battery	OK

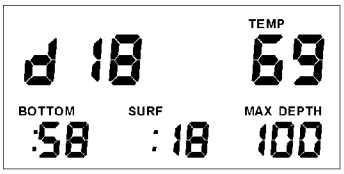


FIGURE 5
SURFACE MODE DISPLAY
Primary Screen
Constant PO2 Mode
Residual Nitrogen

Remaining DSAT Time	18 hrs
Altitude	< 2k feet
Temperature	69 f
Bottom Time	58 mins
Surface Time	18 mins
Max Depth	100 feet
Battery	OK

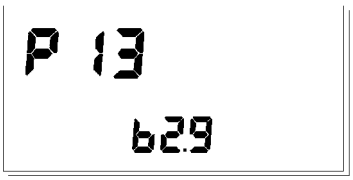


FIGURE 2a
SURFACE MODE DISPLAY
Alternate Screen
Constant PO2 Mode

Constant PO2	1.3 ata
Battery Voltage	2.9 volts

Subsurface Mode - PO2 Mode

Whether in the Surface Mode, PreDive Prediction Mode, Programming Mode or the Logbook Mode, the 'NAVY NSW HE III 200-1.3" will automatically enter the Subsurface Mode when the unit determines that it is in water deeper than five feet.

Maximum Depth will be replaced with current Depth displayed in one-foot increments. Bottom Time will begin once the 'NAVY NSW HE III 200-1.3" senses that the diver has descended below five feet and continues until the diver has ascended above three feet. The maximum Bottom Time displayed is 9 hours 59 minutes.

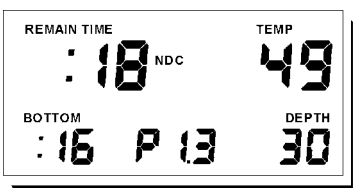


Figure 8
SUBSURFACE MODE DISPLAY
Constant PO2 Mode

Remain NDC Time	18 mins
Ascent Rate	0
Temperature	49 f
Bottom Time	16 mins
Depth	30 feet
Constant PO2	1.3 ata
Battery	OK

Decompression Mode - PO2 Mode

Should a no-decompression limit be overstayed, the 'NAVY NSW HE III 200-1.3" will enter the Decompression Mode. In this mode, the Ceiling digits will display the depth at which the diver must stop and not ascend above during final ascent (the "TEMP" legend and digits will be replaced with the "CEIL" legend and digits). The first Ceiling will be at 20 feet and continue in ten-foot increments.

The Remaining No-decompression Time and "NDC" legend will be replaced with Decompression Time and "DEC" legend. Both STOP time and TOTAL time are displayed using the same set of digits. As shipped from the factory (can be changed via ANALYST®), STOP and TOTAL time will alternate at the rate of once every two seconds. In this way, the diver can view not only the time to spend at a particular STOP depth, but also the TOTAL time it will take to complete all STOPS. Clearly, the larger of the two alternating numbers is the Total Decompression Time of all stops, and the smaller of the two numbers is the time required at the current stop. At the twenty foot stop, the TOTAL and STOP times may be the same and therefore appear to not alternate. When at a specific stop, the decompression time at that stop is as shown, and will count down. The Total decompression time, however, is merely an indication based on a forecast using the normal dive PO_2 value. The times that are forecast do not include the effects of a Deco gas switch, once the switch is made the displayed times are accurate for that breathing gas. The TOTAL time that is shown is usually longer than that actually required.

Predicted Decompression Time at a specific stop assumes that the diver is at the required Ceiling. However, it is not necessary to be precisely at the specified Ceiling. Outgassing credit will be given that is proportional to a depth that is deeper than the specified Ceiling. A small margin shallower than the Ceiling also exists. Should a Ceiling be violated (diver is shallower than Ceiling), the Depth and Ceiling digits will flash as a visual warning. This warning will continue until the Depth has been corrected. Outgassing will continue even though the diver is shallower than the Ceiling.

If the diver surfaces before satisfying his decompression obligation, the 'NAVY NSW HE III 200-1.3" will continue to give outgassing credit as if it was in a dive, but at a depth of zero feet. The unit will continue to log data and perform as if actually in a dive. If in the Constant PO_2 mode the unit will actually decompress as if it were actually at the various required decompression stops using the specified Constant PO_2. However, the forecasted decompression times are based on Constant PO_2 and will not be accurate. When the decompression obligation is finally satisfied, the thirty-minute "PostDive Interval" will begin and the dive will terminate in thirty minutes.

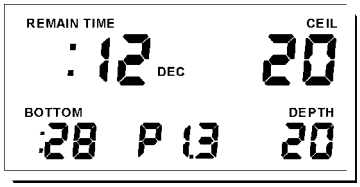


Figure 16
DECOMPRESSION MODE
Constant PO2 Mode
(Showing Total Deco Time)

Total Deco Time	12 mins
Ascent Rate	0
Stop Ceiling	20 feet
Bottom Time	28 mins
Constant PO2	1.3 ata
Depth	20 feet
Battery	OK

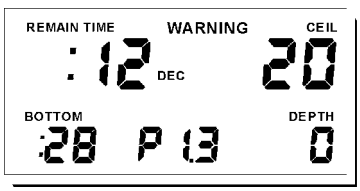


FIGURE 17
DECOMPRESSION MODE
Constant PO2 Mode
(At Zero Depth)
(CEILING & DEPTH Digits Flashing)

Total Deco Time	12 min
Stop Ceiling	20 feet
Bottom Time	28 mins
Constant PO2	1.3 ata
Depth	0 feet
Battery	OK

Ascent Rate Bar Graph

The Ascent Rate bar graph and alarms are active in both the Subsurface Mode and Decompression Mode when the depth is below ten feet. The five-segment bar graph is used to display the diver's rate of ascent. The factory default for maximum ascent rate is 30 feet per minute. With this setting, no bars will illuminate if a diver is ascending at a rate less than 5 feet per minute. If the diver has an ascent rate of more than 30 feet per minute, the entire Ascent Rate Bar Graph will flash, and the WARNING legend will illuminate. Each segment indicates an additional 5 feet per minute of Ascent Rate.

Via the ANALYST® PC Interface, the maximum Ascent Rates alarms can be selected from 20 to 60 feet per minute. Another ANALYST® selection pertains to the bar graph itself. The two selections given are either FIXED or PROPORTIONAL. With FIXED, each of the five bars indicates an additional 10 feet per minute of Ascent Rate regardless of the maximum Ascent Rate selected. With PROPORTIONAL, each of the five bars indicates 20% (one-fifth) of the selected maximum Ascent Rate.

A third option that is accessible via the ANALYST® PC Interface is a VARIABLE Ascent Rate. With this option, the Ascent Rate Alarm is determined by depth. As the diver ascends to shallow depths, the maximum Ascent Rate is lowered. The maximum Ascent Rates and their associated depth are:

60 feet or deeper	60 feet per minute
59 to 30 feet	feet per minute equal to the depth
Less than 30 feet	30 feet per minute

The sensitivity or responsiveness of the Ascent Rate may be selected. Via the ANALYST®, eight different levels of sensitivity are available.

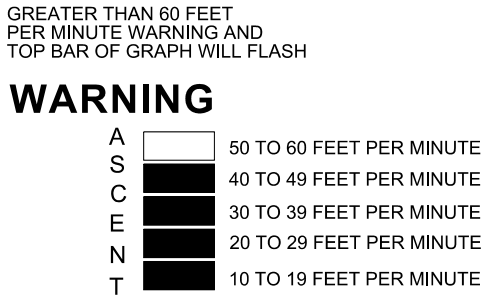


Figure 12 Ascent Rate Bar Graph (Fixed at 60 feet-per-minute)

NOTE: Customizing the Ascent Rate and Ascent Rate Bar Graph are just two of the many additional programmable features available when using the ANALYST® PC Interface. See an Authorized Team Cochran Dealer for a complete demonstration. Some available features are described in the section “USER CONFIGURABLE OPTIONS”.

PostDive Interval Mode

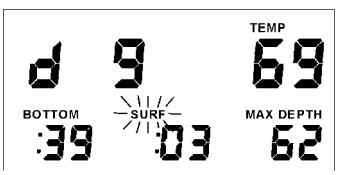


FIGURE 19
POST DIVE INTERVAL
Primary Display
("SURF" Legend Flashing)

Remaining DSAT Time	9 hrs
Altitude	< 2k feet
Temperature	69 f
Bottom Time	39 mins
Surface Time	3 mins
Max Depth	62 feet
Battery	OK

During the first thirty minutes after a dive, the ‘NAVY NSW HE III 200-1.3’ is in the PostDive Interval Mode. The flashing "SURF" legend and a Surface Time of less than thirty minutes indicate this. Should another dive be commenced before the completion of the PostDive Interval, that dive will be considered an extension of the previous dive. In this case, Bottom Time will NOT include the time spent on the surface in this PostDive Interval Mode. However, when reviewing the profile with the ANALYST®, the time spent on the surface in this mode will be shown.

Sleep Mode

Sixty minutes after the ‘NAVY NSW HE III 200-1.3” has concluded the Post-Dive Interval the ‘NAVY NSW HE III 200-1.3” will enter into a Sleep Mode. In the Sleep mode the ‘NAVY NSW HE III 200-1.3” computer continues to perform out-gassing calculations and keep track of the Surface time, and Desat time ceases all other activities. This is a power saving feature of the ‘NAVY NSW HE III 200-1.3”. The current Surface Interval can be viewed by turning the unit back on.

Exceeding Depth Rating

If the ‘NAVY NSW HE III 200-1.3” is subjected to a depth greater than 328 feet, the ‘NAVY NSW HE III 200-1.3” will display a depth of 328 feet. The WARNING legend will illuminate and the depth digits will flash. Decompression calculations will be based on a depth of 328 feet.

NOTE: Diving the 'NAVY NSW HE III 200-1.3' to a depth of 328 feet or greater will void the Limited Warranty.

Data Storage Types & Capacity

The ‘NAVY NSW HE III 200-1.3” has the following internal distinct data storage activities that can be recalled, viewed, and stored with the ANALYST® PC Interface:

- **Current Variable Information:** Local Time, Altitude, Battery voltage, and 9 tissues loading.
- **Current Configuration Data:** As can be seen in USER CONFIGURABLE ITEMS, below.
- **Historical Totals Summaries:** Dive Time, Number of Dives, Number of Marginal Dives, Number of Warnings, Number of Decompression Dives, and Decompression Time.
- **Each Dive Beginning Statistics:** 9 tissues loading, Local Time Clock, Dive of Day, Dive Number, Surface Time, Altitude, Dsat Time, and Battery Voltage. Capacity is the most recent 512 dives.
- **Each Dive Ending Statistics:** 9 tissues loading, Bottom Time, Max Depth, Average Depth, Min NDC Time, Max Deco Time, Max Deco Ceiling, Missed Ceiling, Missed Deco Time, Max PO_2, Max Ascent Rate, Max A/R Time, Max A/R Depth,PO_2 Switch Depth, Min Temperature, Max Temperature, Min Battery Voltage, Dsat Time, and Number of Warnings. Capacity is the most recent 512 dives.
- **Each Dive Configuration Data:** Configuration of the system, including PO_2, PO_2 Activate Depth, User Conservatism. Capacity is the most recent 512 dives.
- **Profile Graphical Information:** Depth Graph, Ascent Rate Graph, Temperature Graph, and PO_2 Graph. Capacity is 550 hours at one second sampling. Uploading to a PC often via the ANALYST® prevents earlier data from being overwritten by more recent data from being lost.

User Configurable Items

By using the ANALYST® Personal Computer Interface, the user has the ability to change the following items:

Dive Time/Date Stamp: This is the internal clock setting that is used by the system to time-stamp each individual dive as it occurs. Due to changes in battery voltage and temperature, the internal Time of day clock may slowly drift from the ideal. It is recommended that this clock be periodically set to local time via the ANALYST®.

Metric or Imperial: The diver may select whether the data is computed and displayed in Metric or Imperial units. The 'NAVY NSW HE III 200-1.3" may be ordered either way as shipped from the factory.

Select PostDive Surface Interval (10 to 30): This option allows the user to set the amount of time, in minutes, for the PostDive interval. From the factory this is set to 30.

Selectable Ascent Rate Bar Graph (Fixed or Proportional): This option determines whether the Ascent Rate bar graph indicates the speed of ascent or the percentage of the selected maximum ascent rate. The 'NAVY NSW HE III 200-1.3" is shipped from the factory as FIXED (speed).

Selectable Variable-By-Depth Ascent Rate Alarm (On or Off): This option gives the diver the ability to utilize a fixed ascent rate warning or a warning based on depth. Should the diver prefer the fixed ascent rate warning the diver can select the maximum ascent rate limit which, can be selected from 20 to 60 feet per minute (See next topic). As shipped from the factory, this is set to OFF. If the VARIABLE rate is selected then the warning will illuminate based on the following table:

DEPTH	AVERAGE ASCENT RATE
60 feet and deeper	60 feet per minute
60 to 30 feet	same as depth
Shallower than 30 feet	30 feet per minute

Selectable Fixed Ascent Rate Alarm Limit: If Variable-By-Depth Ascent Rate Alarm was set to OFF from the above topic, the user may enter the desired Ascent Rate for the alarm to sound. The 'NAVY NSW HE III 200-1.3" is shipped from the factory as FIXED, with a 30 feet per minute alarm.

Ascent Rate Responsiveness (0 to 7): This option determines the responsiveness or sensitivity of the Ascent Rate Bar Graph. Zero is highly responsive and seven is very slow. This feature is set to three as shipped from the factory.

Remaining Time Responsiveness (0 to 7): This determines the responsiveness of the Remaining Time information that is displayed. Zero is highly responsive and seven is very slow. This feature is set to three as shipped from the factory.

Max Depth Alarm (0 to 320): This option allows the diver to select a maximum depth below which, the diver does not wish to descend before an alarm is sounded. This function is disabled when in the Decompression Mode. As shipped from the factory, the Depth Alarm is set for 150 feet. This option may also be set via the Touch Contact Programming method.

Select Decompression Time Display (Total, Stop, Both): There are three options for the manner in which the decompression time is displayed.

If **TOTAL** is selected, the decompression time displayed will indicate the total time that is to be spent in decompression. Watch the Ceiling depth change in order to identify when to ascend to the next stop depth.

If **STOP** is selected, the decompression time displayed will indicate the time that must be spent at the current Ceiling. When this time is 0:00, the Ceiling depth will decrease and the new stop time will be displayed.

If **BOTH** is selected, the **TOTAL** time and **STOP** time will alternate at the rate of once every 2 seconds. From the factory, the unit is set to **BOTH**.

Select Ceiling Display in 1 Foot Increments (On or Off): This option allows the diver to select when in the Decompression Mode the Ceilings are displayed as 1 = 10, 2 = 20, 3 = 30 etc. (On) or as 10, 20, 30 etc (Off). From the factory this option is set to Off.

Select Display Backlight On Time (0 to 99): This option allows the user to set the amount of time, in seconds, that the TACLITE™ stays on once activated. If this option is set to "0" the TACLITE™ will never activate, if set to "99" the TACLITE™ will stay on all the time and only turn off when the 'NAVY NSW HE III 200-1.3" does. From the factory this is set to 30. This option may also be set via the Touch Contact Programming method.

Select Audible Beeper Alarm (On or Off): This allows the user to enable or disable the Audible Alarms and beeper. As shipped from the factory, this is set to "Off".

Initialize Unit and Zero Nitrogen Values: If this option is selected, the attached dive computer will be reinitialized and all residual nitrogen loading values will be zeroed.

Wake up the attached Unit: This option permits the dive computer to be turned on while attached to the P.C.

Specifications

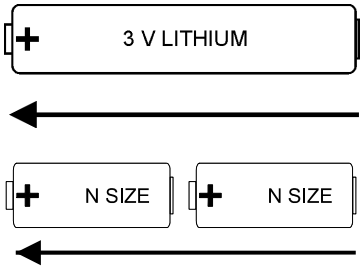
Algorithm	NAVY XVAL-HE-4A
Tissue Compartments	9
Computation Period	Once per Second
Activation	Manual and Water
Maximum Depth	327 feet, 1 foot increments
Depth Accuracy	+/- 1 fsw from surface to 59fsw +/- 2 fsw 60fsw and deeper
Temperature Display	20 to 99 deg F., 1-degree increments
Temperature Accuracy	+/- 2.0% of full scale (+/- 2.8 deg F after the unit stabilizes from a change in temperature)
Surface Time	0 to 9:59 hrs/mins, 1-minute increments
Bottom Time	0 to 9:59 hrs/mins, 1-minute increments
No-Deco Time	0 to 9:59 hrs/mins, 1-minute increments
Decompression Time	0 to 9:59 hrs/mins, 1-minute increments
Dive Summary Storage	1024 Dives
Dive Profile Storage	1450 Dive hours at one second sampling
Profile Sampling:	1-second increments
Taclite:	red, duration 30 seconds
Typical Battery Life	Over 1000 dive hours under normal diving conditions or one year (whichever is first), TACLITE off. Over 40 hours, TACLITE on continuously.
Dry Pressurization:	The NDC will withstand 60 fsw for 60 minutes dry exposures without adversely affecting the accuracy of the depth sensor

NOTE: Specifications are additionally +/- one least significant display digit due to rounding. Specifications are subject to change without notice.

Cleaning the 'NAVY NSW HE III 200-1.3"

Clean the unit after each use with fresh water. Towel the unit dry, never use air pressure to dry the unit, this could damage the unit and will void the warranty. Do not use chemicals to clean the case or lens as this may damage the unit, and/or permanently fog the lens.

CHANGING BATTERY: The NSW HE III 200-1.3 will operate on either one 3V Lithium Battery (CR12600SE or CR2NP) or two 1.5V N-Cell size Alkaline battery(s). The batteries should be changed when the 'BATT' legend is seen or battery voltage reaches 2.5 volts as can be seen on the Information Display. The unit will operate until the battery voltage drops below 2.0 volts. Only use fresh batteries for maximum battery life. At this time, *Eveready Energizer* Alkaline is recommended for the N-Cells. Care should be taken not to activate the TACLITE™ during battery replacement. Be sure to confirm that the batteries are REALLY new and have not been sitting on a shelf losing life. Cold temperatures tend to shorten apparent battery life. Change batteries once every year regardless of battery condition.



Plus end goes in First.

When installing new batteries, ensure that the positive "**+**" end of the battery is inserted into the battery compartment first. Inspect the battery cap O-rings for nicks and scratches. If either O-ring is damaged carefully remove both O-rings and replace with new silicone O-rings. Lightly lubricate each end of the batteries with silicone grease or petroleum jelly to help minimize corrosion and therefore extend battery life.

When reinstalling the battery cap, lightly lubricate the O-rings and slowly twist the cap into place using a coin (US Quarter supplied). Press the coin into the battery cap slot firmly to prevent slipping and damaging the slot. Ensure there is no dirt or debris on the O-rings or the mating surface and that the O-rings are properly installed.

As the battery cap is screwed in, carefully observe that the double O-rings install correctly.

It is best to have the new batteries ready to install since the NSW HE III 200-1.3 was designed to allow for battery changes without resetting. This period of time is typically 30 seconds, but varies with temperature and the voltage of the batteries being replaced. It can be significantly less if batteries are not replaced promptly when the 'BATT' legend first comes on. Again care should be taken not to activate the TACLITE™ during battery replacement, if the TACLITE™ is activated it will significantly reduce the time that the NSW HE III 200-1.3 allows for battery changes.

If the batteries are allowed to discharge too low, or if removed for too long, the NSW HE III 200-1.3 may enter a state where it will not turn on even with new batteries. If this occurs, remove the batteries and allow the unit to set for 30 minutes and then install fresh batteries. This procedure could affect the internal Time of Day Clock's settings and these settings should be verified via the Analyst® P.C. Interface.

CAUTION!!! COMPLETE LOSS OF BATTERY POWER MAY CAUSE ALL PREVIOUS DIVE NITROGEN LOADING TO BE LOST. THIS WILL AFFECT NITROGEN CALCULATIONS ON NEAR-FUTURE DIVES. AFTER A BATTERY CHANGE, CONFIRM THAT NO-DECOMPRESSION TIME DATA IS REASONABLE IN THE PRE-DIVE PREDICTION MODE. DIVE-OF-DAY NUMBER GOING TO ZERO IMMEDIATELY AFTER CHANGING BATTERIES IS ANOTHER INDICATION OF A LOSS OF NITROGEN LOADING.

CAUTION!!! ***Putting the battery(s) in backwards may cause permanent damage to the unit and will VOID the Warranty.***

Product Assistance, Repair & Maintenance

If it is suspected that the 'NAVY NSW HE III 200-1.3" is not operating correctly, please contact your dealer, distributor, or our Customer Support Department in the USA for assistance at 972.644.6284 or FAX details to 972.644.6286 or E-mail details to service@divecochran.com. Most problems can be resolved without returning the unit. The unit may also be returned to the place of purchase and request the dealer to contact us. If this is not possible or is inconvenient due to a change in location, contact us for the name of the nearest Team Cochran Authorized Dealer.

- **NEVER TEST OR SUBJECT THE PRODUCT TO PRESSURIZED AIR!**
- **NEVER REMOVE THE LENS FROM THE UNIT!**
- **ONLY USE FRESH WATER TO CLEAN UNIT! NEVER USE SOLVENTS!**
- **DO NOT USE A SCREWDRIVER TO REMOVE BATTERY CAP!**
- **ALWAYS KEEP FRESH BATTERIES INSTALLED!**
- **ALWAYS USE 1.5 VOLT ALKALINE BATTERIES or ONE 3V LITHIUM BATTERY!**
- **LUBRICATE BATTERY ENDS WITH THIN FILM OF SILICONE GREASE!**

Replacement & Accessory Parts

Batteries (2)
Battery Cap O-rings
Battery Cap Assembly
Pins (2), Replacement
Wrist Strap (long, black)
Retractor Only
Retractor with Compass
Lens Protector (Pkg. of 3)

ANALYST® Personal Computer Interface

The ANALYST® 4.XX Personal Computer Interface is a complete hardware/software system that uploads data from the Cochran 'NAVY NSW HE III 200-1.3" unit to an IBM or compatible Personal Computer with a Windows® 2000/XP/Vista/Win 7 operating system. The ANALYST® Personal Computer Interface allows the diver to retrieve dive data, customize the dive computer and also to enter and store additional information for each dive in a logbook database.

FCC LABEL

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INTERFERENCE STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device. If not installed and used in accordance with the instructions, it may cause interference to radio communications. The limits are designed to provide reasonable protection against such interference in a residential situation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the affected radio or television.
- Increase the separation between the equipment and the affected receiver.
- Connect equipment and the affected receiver to power outlets on separate circuits.
- Consult the dealer or an experienced radio/TV technician for help.

MODIFICATIONS

Changes or modifications not expressly approved by Cochran Consulting, Inc. could void the user's authority to operate the equipment.

SHIELDED CABLES

This product is designed to be used only with the Analyst® interface cable (USB) to maintain compliance with FCC Regulations.

PATENT INFORMATION

Protected under one or more Foreign or US patents.
5,899,2045,794,616
5,617,8485,570,688
Other patents may be pending.

CE

The CE mark is used to mark conformity with the European Union EMC directive 89/336/EEC. Cochran dive instruments fulfill all the required EU directives.

PREN 13319

PREN 13319 “Diving accessories – Depth gauges and combined depth and time measuring devices – Functional and safety requirements test methods” is a European diving depth gauge standard draft. Cochran dive instruments are designed and tested to comply with this standard draft.

LIMITED WARRANTY

To the original purchaser ("OWNER") only, Cochran Undersea Technology, a division of Cochran Consulting, Inc. ("COCHRAN"), represents this Product to be free of defects in materials and workmanship under normal SCUBA use for 12 months from the date of shipment from COCHRAN. For purposes of establishing warranty eligibility, this date can be determined by contacting COCHRAN.

Any defective Product, unless cause is specifically excluded in the "Warranty Conditions and Limitations" section below, will at the sole discretion of COCHRAN, be repaired or replaced with a new or refurbished unit of comparable or better function and/or condition. COCHRAN is not responsible for any incidental or secondary damages as a result of Product malfunction.

WARRANTY CONDITIONS and LIMITATIONS

Product must have been obtained from COCHRAN. This Limited Warranty is not transferable.

Failure to provide proper care for this Product will render this Limited Warranty null and void. Damages or malfunction resulting from accidental or deliberate abuse, tampering, battery leakage, exceeding maximum intended operating depth or other parameters, extreme heat or cold, or other conditions which COCHRAN may deem to be outside the intended scope of this Limited Warranty are not covered. Plastics, O-rings, batteries, battery life, and flooded battery compartments are NOT covered by this Limited Warranty.

This Limited Warranty will be rendered null and void if an attempt is made to establish communications with the computer with any hardware and/or software other than the Cochran approved Analyst® Interface. OWNER is responsible for shipping this Product to COCHRAN for service, and paying all associated costs, including shipping, insurance, and import duties. OWNER may take Product to an Authorized Dealer to arrange service under terms of this Limited Warranty. COCHRAN will return Product to OWNER or Dealer via a method and carrier of its choosing. Costs for requested expedited return shipping will be the responsibility of OWNER. Product returned for service under terms of this Limited Warranty must be accompanied by a photocopy of the original sales receipt in order for warranty repair or replacement to be performed if the Warranty Registration Card is not on file.

STATEMENT of LIMITED LIABILITY

A mathematical model is used by this Product to calculate physiological effects of SCUBA diving related to use of compressed air or other breathing mixtures while at depth. Such effects specifically relate to nitrogen absorption into and elimination from body tissues, as well as effects of oxygen used in breathing mixtures.

However, because of the number of variables and the varying degrees to which they may affect individuals engaged in SCUBA diving, COCHRAN DOES NOT GUARANTEE THAT USE OF THIS PRODUCT WILL PREVENT DECOMPRESSION SICKNESS OR ANY OTHER CONDITION OR INJURY INCURRED WHILE USING THIS PRODUCT.

These influencing variables may include, but are not limited to, dehydration, obesity, age, old injuries, or other physical conditions on the part of the diver, or environmental extremes of heat or cold, or poor training, or diving practices, any of which may promote the onset of decompression sickness or other harmful effects.

This Product is sold and intended to be used only as a guide, providing the TRAINED and CERTIFIED diver the information needed to make safe diving decisions. It is expressly understood that by buying and/or using this Product the Diver assumes ALL RISK as to its operability, reliability, quality, performance, accuracy, and suitability for his diving style. Furthermore, Diver recognizes that this Product is an electronic instrument being used in a hostile environment and is subject to failure, which may manifest itself in a number of ways. COCHRAN and its distributors and retailers will not be held liable for any personal injuries or other damages resulting from its use, even if COCHRAN has been advised of such occurrences or damages.

These products must be handled with care and properly maintained to assure the optimum performance. Users must possess the proper training for SCUBA diving activities and should be fully educated in the operation of this product. Users are encouraged to possess and utilize a redundant (backup) computer for their dive planning and execution. Divers are always encouraged to dive with a buddy at all times.

COCHRAN strongly supports and agrees with maximum depth limits of 130 feet for recreational SCUBA diving, as established by recognized training and certification agencies, and in no way encourages diving beyond these or any prudent lesser limits as may be necessitated by environmental, diver-specific, or other conditions.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, WHETHER ORAL OR WRITTEN, EXPRESSED OR IMPLIED. COCHRAN UNDERSEA TECHNOLOGY SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
No Cochran Undersea Technology dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

METRIC/IMPERIAL MODES: If the computer is computing and displaying in Metric, the “METRIC” legend will be illuminated when the computer is on. Metric/Imperial selection is made using the Analyst® software. Changing Modes does not affect any profiles or data stored in the dive computer.

LOW BATTERY INDICATIONS: Fresh batteries should read about 3.2 volts on the Information Screen. When the battery voltage drops to 2.5 volts, the “BATT” legend will be illuminated. It is recommended to change the batteries at this point, but several dives might still remain possible. When the battery voltage decays to 2.2 volts, the “BATT” legend will begin to flash on and off. Once the “BATT” legend begins to flash the TACLITE™ is deactivated, to conserve the remaining battery power even though the unit may be on a dive, and can not be activated until fresh batteries are installed. While there should be sufficient battery power to normally complete a dive, it is not recommended to begin a new dive until fresh batteries are installed. After the computer automatically turns itself off 90 minutes after a dive, it cannot be turned back on if the battery voltage is less than 2.1 volts. Fresh batteries must be installed. See the “BATTERY CHANGES” section of this manual for detailed information on how to change batteries.

CAUTION!!! COMPLETE LOSS OF BATTERY POWER MAY CAUSE ALL PREVIOUS DIVE NITROGEN LOADING TO BE LOST. THIS WILL AFFECT NITROGEN CALCULATIONS ON NEAR-FUTURE DIVES. AFTER A BATTERY CHANGE, CONFIRM THAT NO-DECOMPRESSION TIME DATA IS REASONABLE IN THE PRE-DIVE PREDICTION MODE. DIVE-OF-DAY NUMBER GOING TO ZERO IMMEDIATELY AFTER CHANGING BATTERIES IS ANOTHER INDICATION OF A LOSS OF NITROGEN LOADING.

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Cochran
UNDERSEA TECHNOLOGY
A Division of Cochran Consulting, Inc.

Diving Into The 21st Century

NAVY
NSW HE III 200-1.3
DIVE COMPUTER
Manual

English Language - Imperial Units

Version 001i
04 June 2010

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