

OWNERS  
MANUAL

Ver. CPT006i  
revised 100199



**Cochran**  
UNDERSEA TECHNOLOGY  
A Division of Cochran Consulting, Inc.

*Diving Into The 21st Century*

## **LIMITED WARRANTY**

To the original purchaser ("OWNER"), Cochran Undersea Technology, a division of Cochran Consulting, Inc. ("COCHRAN"), represents this Product to be free of defects in both materials and workmanship under normal SCUBA use for 24 months from the date of shipment from COCHRAN to the Authorized Dealer or Distributor. For purposes of establishing warranty eligibility, this date may be noted on the original product box, or can be determined by contacting COCHRAN.

Any defective Product, unless cause is specifically excluded in the "Warranty Conditions and Limitation" section below will at the sole discretion of COCHRAN, be repaired, replaced, 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 LIMITATIONS AND EXCLUSIONS**

Product must have been obtained from a COCHRAN Authorized Dealer. Contact COCHRAN for verification of dealer status. This Warranty is not transferable.

The warranty registration card must be sent to the COCHRAN within 15 days of the purchase in order to validate Limited Warranty date.

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 that COCHRAN 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.

OWNER is responsible for the shipping of this Product to COCHRAN for service, and paying for 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 while at depth. Such effects specifically relate to nitrogen absorption into and elimination from body tissues. 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 solely 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, 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 use, even if COCHRAN has been advised of such occurrence 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. And divers are always encouraged to dive with a buddy at all times.

COCHRAN strongly supports and agrees with the maximum depth limit of 130 feet for recreational SCUBA diving as set 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.

**CAUTION!!!** LOSS OF BATTERY POWER WILL CAUSE ALL PREVIOUS DIVE NITROGEN LOADING TO BE LOST. THIS WILL AFFECT NITROGEN CALCULATIONS ON NEAR-FUTURE DIVES.

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# **DO NOT OPEN THIS UNIT**

**If this unit is opened and floods then  
the Limited Warranty may be voided**

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## USER INFORMATION

For your records, Cochran Undersea Technology recommends that you fill in the following information.

**SERIAL NUMBER OF UNIT:** \_\_\_\_\_

**DATE OF PURCHASE:** \_\_\_\_\_

**PLACE OF PURCHASE:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **TURN ON**

The CAPTAIN™ automatically turns on when it is submerged in water. It also may be powered up by touching two wetted fingers to the two metal contacts on its face. Once on, the CAPTAIN™ will remain on for one hour. If a dive is not initiated within this one hour period, the CAPTAIN™ automatically turns off.

**NOTE: The CAPTAIN™ will not turn on if the altitude is greater than 10,000 feet or if the depth is greater than three feet.**

**NOTE: If depth is greater than three feet then the word "DEEP" will be displayed where Altitude (Depth & Time digits) is displayed.**

After a dive, the CAPTAIN™ remains on for one hour or until all twelve half-time compartments reach their normal levels, depending on which takes longer.

The CAPTAIN™ has seven main modes: the Self-Diagnostic Mode, the Pre-dive Prediction Mode, the Surface Mode, the Logbook Mode, the Subsurface Mode, the Emergency Decompression Mode, and the Gauge Mode.

## SELF-DIAGNOSTIC MODE

In this mode, all segments of the CAPTAIN™ display will illuminate for approximately three seconds. (FIG-1)

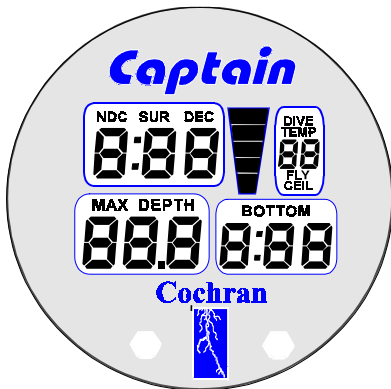


FIG-1 SELF-DIAGNOSTIC DISPLAY

## **BATTERY/TEMPERATURE/ALTITUDE DISPLAY**

Upon completion of the Self-Diagnostic Mode, the CAPTAIN™ will display current Temperature and present Altitude (in 1000 foot increments). Battery Voltage will be displayed via the Ascent Rate Bar graph. The number of segments illuminated indicate the battery voltage.

5 segments illuminated 2.6 to 3.0 Volts

4 Segments illuminated 2.5 to 2.6 Volts

3 segments illuminated 2.4 to 2.5 Volts

2 segments illuminated 2.3 to 2.4 Volts

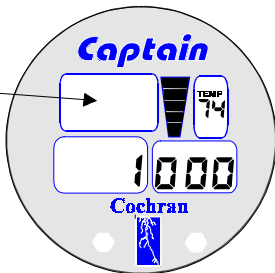
1 segment illuminated less than 2.3 Volts

FIG-2 illustrates this display showing the following values:

Battery Voltage	between 2.6 and 3.0 volts.
Temperature	74°F
Altitude	1000 Feet

**Note: If a low battery condition is detected, the word "LO" will be displayed (see FIG-2 for location of message).**

IF LOW BATTERY  
CONDITION THEN  
"LO" WILL APPEAR  
HERE



**FIG-2 BATTERY/TEMPERATURE/ALTITUDE DISPLAY**

## **SURFACE MODE**

The Surface Mode is entered after the CAPTAIN™ successfully completes its Self-Diagnostic Mode and Battery/Temperature/Altitude display. In this mode, current Surface Time, the previous dive's Maximum Depth, and the previous dive's Bottom Time are displayed. The CAPTAIN™ will also alternate between the current Temperature and the Time-To-Fly.

If no dive has been initiated, the unit shuts off after one hour on the surface. One hour after a dive has been completed, the CAPTAIN™ will enter a "sleep mode", where information is not displayed although it is still being calculated. You may observe the information again by turning the unit back on.

FIG-3 illustrates:

Surface time	0 hours 25 minutes
Time To Fly	0 hours 00 minutes
Maximum Depth	0 feet
Bottom Time	0 hours

## POST DIVE INTERVAL

During the first ten minutes after a dive, the CAPTAIN™ is in the Post Dive Interval. This is indicated by the SUR legend flashing. Should another dive be commenced before ten minutes of surface time has elapsed, that dive will be considered a continuation of the previous dive.



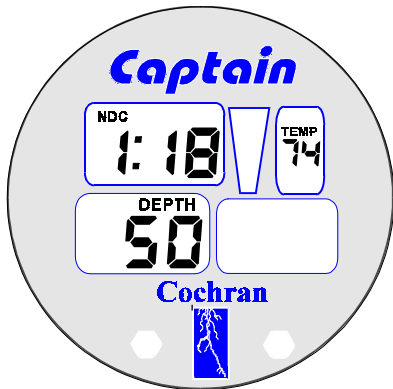
FIG-3 SURFACE MODE

## **PREDIVE PREDICTION MODE**

After one minute of Surface Mode has elapsed, the CAPTAIN™ will automatically enter the Pre-dive Prediction Mode. During this mode, predictions of no-decompression limits will be made in ten foot increments beginning with 30 feet and continuing to 160 feet or to a depth at which a maximum of two minutes of no-decompression time is allowed.

FIG-4 illustrates:

NDC Time	1 hour 18 minutes
Temperature	74°F
Depth	50 feet



DEPTH FEET	NO-DECO TIME hrs min
---------------	----------------------------

30	4 : 22
40	2 : 17
50	1 : 18
60	: 56
70	: 40
80	: 31
90	: 25
100	: 19
110	: 16
120	: 13
130	: 11
140	: 09
150	: 08
160	: 07

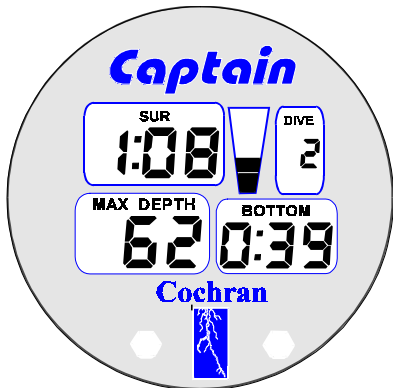
**FIG-4 PREDIVE PREDICTION MODE**

## LOGBOOK MODE

The CAPTAIN™ will automatically enter the Logbook Mode at the end of the Pre-dive Prediction Mode, if the CAPTAIN™ still retains dive information. The CAPTAIN™ retains dive log information for one "dive day", a "dive day" being defined as when the CAPTAIN™ first enters the subsurface mode until it is totally desaturated and turns off. This "dive day" may be as short as one dive or last several days of diving depending upon the diver's style of diving. During this mode, the diver will be able to view up to the last eight dives made in a single "dive day". The most recent dive will be displayed first. Information contained in each log will include Maximum Depth, Bottom Time, Surface Interval between dives, and Fastest Rate of Ascent and will be displayed for ten seconds before moving to the next log. Additionally, in the "DIVE" window, the Dive-Of-The-Day number is displayed for the first five seconds of each log and the Minimum Water Temperature for the remaining five seconds. At the conclusion of this mode, the CAPTAIN™ will once again re-enter the Surface Mode.

FIG-5 illustrates:

Surface Interval	1 hour 08 minutes
Fastest Rate of Ascent	20 to 29 feet per minute
Dive Number	2
Maximum Depth	62 feet
Bottom Time	0 hour 39 minutes



**FIG-5 LOGBOOK MODE**

## **SUBSURFACE MODE**

Whether in the Surface Mode, Pre-dive Prediction Mode, or the Logbook Mode, the CAPTAIN™ will automatically enter the Subsurface Mode when it descends below five feet, and continue until the diver ascends above 3 feet.

The Surface Time will be replaced with remaining no-decompression time, identified by the NDC legend being illuminated.

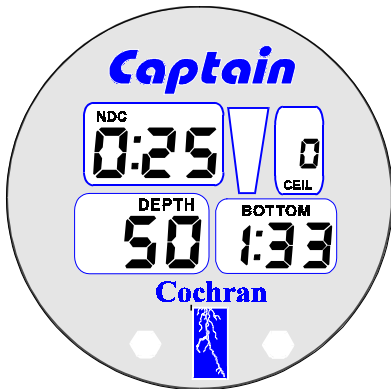
The maximum Bottom Time displayed will be 9 hours 59 minutes.

The Current Depth while in the Subsurface Mode will be displayed in one foot increments up to a maximum depth of 250 feet.

**NOTE: While the CAPTAIN™ is capable of operating at depths down to 250 feet, Cochran Undersea Technology fully supports the maximum limit for recreational SCUBA diving at 130 feet set by recognized training and certification agencies. Cochran Undersea Technology in no way encourages diving deeper than this limit.**

FIG-6 illustrates:

Remaining NDC	0 hours 25 minutes
Ceiling	0 feet
Depth	50 feet
Bottom Time	1 hour 33 minutes



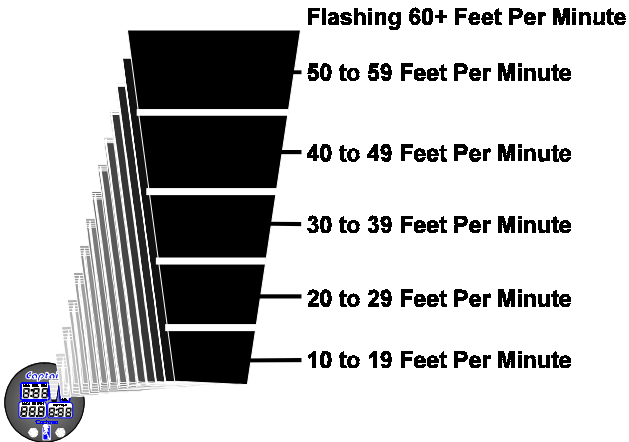
**FIG-6 SUBSURFACE MODE DISPLAY**

## **ASCENT RATE BAR GRAPH**

This graph displays the diver's rate of ascent.

If the diver has an ascent rate of less than 10 feet per minute, no bars will be illuminated. If the diver has an ascent rate of more than 60 feet per minute, the entire Ascent Rate Bar Graph will flash.

The Ascent Rate Bar Graph illustration shows the ascent rates and their corresponding number of bars.



**ASCENT RATE BAR GRAPH DISPLAY**

## EMERGENCY DECOMPRESSION MODE

Should a diver mistakenly overstay a no-decompression limit, the CAPTAIN™ will enter the Emergency Decompression Mode. In this mode, the Ceiling digits will display the depth at which the diver must stop and remain during final ascent. The first ceiling will be at 10 feet and continue in ten foot increments to a maximum of 40 feet.

The total decompression time required to complete the stop will be displayed.

Should a diver be at a depth shallower than the required decompression ceiling, the depth and ceiling digits will flash as a visual warning. This warning will continue until the diver has corrected the depth.

**NOTE: COCHRAN UNDERSEA TECHNOLOGY DOES NOT INTEND FOR THIS INSTRUMENT TO BE USED FOR DELIBERATE DECOMPRESSION DIVING.**

FIG-7 Illustrates:

Time at Stop	0 hour 08 minutes
Ceiling	20 feet
Current Depth	20 feet
Bottom Time	1 hour 28 minutes



**FIG-7 EMERGENCY DECOMPRESSION MODE DISPLAY**

## **GAUGE MODE**

Should the diver violate the operating limits of the CAPTAIN™, the unit will enter Gauge Mode. While in this mode, the only data that will be displayed are Depth, Ascent Rate, Temperature, and Bottom Time. The Remaining Time/Surface Time display will be replaced with the message 'GAU'.

The circumstances which will cause the CAPTAIN™ to enter Gauge Mode are:

- A dive deeper than 250 feet is performed

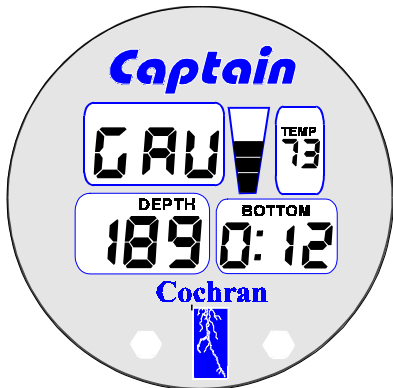
- A ceiling depth of greater than 40 feet is calculated

- A diver is above a required ceiling depth for more than five minutes.

**NOTE: Exceeding the maximum operating range of the CAPTAIN™ will void the Limited Warranty**

Once the CAPTAIN™ has entered Gauge Mode, it will remain in that mode for 24 hours. If the CAPTAIN™ re-enters the Subsurface Mode while in the Gauge Mode, another 24 hour time period will begin once the CAPTAIN™ returns to the Surface Mode. After the diver has been on the surface for one hour, the CAPTAIN™ will enter a "sleep" condition.

To see how much time remains before the CAPTAIN™ exits Gauge Mode, turn the CAPTAIN™ back on and look at the Time-To-Fly digits. They will display the time remaining before the unit exits Gauge Mode.



**FIG-8 GAUGE MODE DISPLAY**

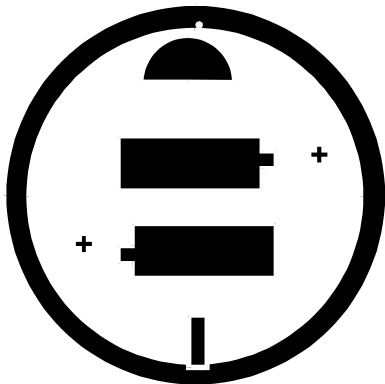
## BATTERY REPLACEMENT

**NOTE: It is recommended that battery replacement be performed by an authorized Cochran Undersea Technology dealer.**

To replace the batteries in the CAPTAIN™:

- 1 Remove the unit from its boot.
2. Make certain the case is dry.
- 3 Unscrew and remove the outer ring.
- 4 Separate the bottom of the CAPTAIN™ from the main unit.  
**Extreme care should be taken to avoid damaging the wiring cable which connects the battery contacts and the depth sensor to the electronics in the main unit.**
- 5 Install two new fresh ENERGIZER N-size alkaline batteries in the orientation shown in FIG-9.
- 6 Make certain the o-ring is clean and properly lubricated and seated.
- 7 Replace the bottom of the CAPTAIN™ on the main unit.
- 8 Carefully align the threads and screw the outer ring back on until it is hand tight.

**CAUTION:** When replacing the **ENERGIZER** batteries, make certain the battery compartment is dry **BEFORE** closing up the unit. **DO NOT** use a hair dryer or other heat source to dry the unit.



**FIG-9 BATTERY REPLACEMENT**

## **PRODUCT ASSISTANCE, REPAIR & MAINTENANCE**

**IF** you suspect that your CAPTAIN™ is not operating correctly, please contact our Customer Support Department in the USA for assistance at 972.644.6286 or FAX with details to 972.644.6286 or E-mail details to [service@mcochran.com](mailto:service@mcochran.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 change of location, contact us for the name of the nearest Team Cochran Authorized Dealer.

- NEVER TEST DIVE OR SUBJECT THE PRODUCT TO PRESSURIZED AIR!
- ONLY USE FRESH WATER TO CLEAN THE UNIT!
- NEVER USE SOLVENTS TO CLEAN THE UNIT!

## **SPECIFICATIONS**

Activation	Water
Maximum Depth	255 feet
Max. Functional Depth	250 feet 1 foot increments
Altitude	0 to 10,000 feet 1000 foot increments
Temperature	0 to 99 degrees Fahrenheit 1 degree increments
Surface Time	0 to 9:59 hours/minutes 1 minute increments
Bottom Time	0 to 9:59 hours/minutes 1 minute increments
Time To Fly	0 to 48 hours 1 hour increments
Ceiling	0 to 40 feet 10 foot increments
Battery Life	Over 1000 dive hours or 2 years on a New, Fresh set of ENERGIZER Alkaline batteries

## **REPLACEMENT PARTS**

BATTERIES	1.5 VDC ENERGIZER ALKALINE 'N' CELLS (2) P/N 19931
O-RING	PARKER 2-033 P/N 18917

## **ASSISTANCE / TECHNICAL SUPPORT**

Should you have any questions about your CAPTAIN, or require technical assistance, our support staff of certified instructors is only a phone call, fax message, or e-mail away. Our Technical Support staff is available from 9:00 am until 5:00 pm Central Time Monday through Friday. Our Telephone Numbers are:

voice      972-644-6284  
fax        972-644-6286  
e-mail     service@mcochran.com



# Cochran

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