Clock Mode Programming

If the Clock Mode is not enabled via the Analyst Personal Computer Interface the following screens will not be visible nor accessable by Touch Programming .

When the Clock Mode is enabled, the Clock Menu Screen will be the first screen that is displayed when in Touch Programming.

Programming the Clock Time and Alarm settings follows the same sequence as Touch Programming.

Clock
Main Menu Selection

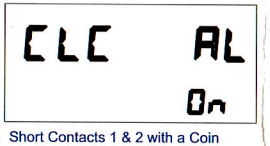
Bridge Contacts 1 & 2 with wetted fingers to access Clock Mode..

Clock Alarm Off

Bridge Contacts 1 & 2 with wetted fingers to toggle Clock Alarm on/off.

Clock Alarm On

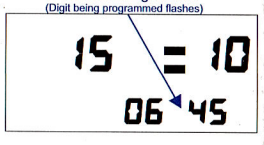
Short Contacts 1 & 2 with a Coin or other highly conductive metal object to access Clock time setting screen.



Short Contacts 1 & 2 with a Coin or other highly conductive metal object to access Clock Alarm setting screen.

Short Contacts 2 & 3 with Coin to increment digit value.
(Digit being programmed flashes)

Setting Alarm Time



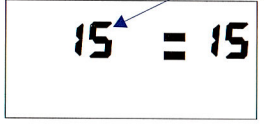
Short Contacts 1 & 2 with a Coin selects the next programming option.

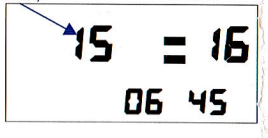
Bridge Contacts 1 & 2 with wetted fingers to select next digit.

Setting Time wo/Alarm

Short Contacts 2 & 3 with Coin to increment digit value.
(Digit being programmed flashes)

Setting Time w/Alarm





Bridge Contacts 1 & 2 with wetted fingers to select next digit.

Short Contacts 1 & 2 with a Coin selects the Clock Mode.

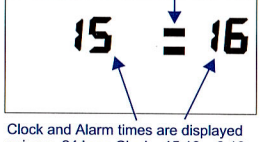
Bridge Contacts 1 & 2 with wetted fingers to select next digit.

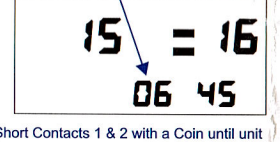
Clock Mode wo/Alarm

Flashes once per second.

Alarm will sound and Taclite will flash for one minute at this time every 24 hours.

Clock Mode w/Alarm





Clock and Alarm times are displayed using a 24 hour Clock. 15:16 = 3:16 pm.

Short Contacts 1 & 2 with a Coin until unit issues two beeps and exits to Surface Mode.

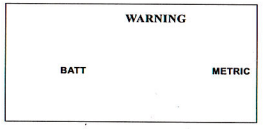
Clock Mode must be exited before commencing a Dive.

TYPES OF AUDIBLE WARNINGS

Most Warnings are issued for five seconds and repeated every two minutes

Single Beep	**Depth Alarm, two minutes of NDC Time Remaining, Entering Decompression.**
Double Beep	**Oxygen Toxicity (CNS, OTU, PO2).**
Two Tone	**Sensor Malfunction.**
High to Low Sweep	**Ascent Rate (Continuous).**
Low to High Sweep	**Depth Shallower than Decompression Ceiling (Continuous).**

Any time the "WARNING" legend is on and/or flashing, some parameter is out of bounds. Look for the offending parameter that is flashing on and off every second.

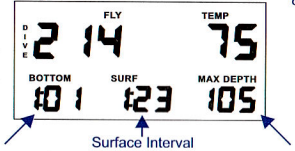


When 'METRIC' legend is on, the unit is computing in Metric variables and displaying data in Metric units.

Any time the 'BATT' legend is on, battery voltage is below 2.1 volts and batteries should be changed. When 'BATT" legend is flashing, battery voltage is below 1.8 volts and batteries MUST be changed.

Dive Number & Time to Fly
(Never Flash)

Temperature
(Flashes if less than 20 or greater than 99 degrees F, or sensor is malfunctioning)



Bottom Time
(Never Flashes)

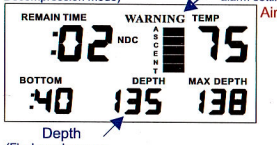
Surface Interval
(Never Flashes)

Max Depth
(Never Flashes)

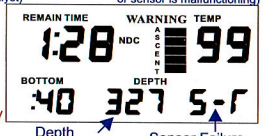
NDC Time Remain
(Flashes when two minutes or less remain before entering Decompression mode)

Ascent Rate Bar Graph
(Flashes when ascending too fast based on Ascent rate alarm setting via Analyst)

Temperature
(Flashes if less than 20 or greater than 99 degrees F, or sensor is malfunctioning)



Air Only



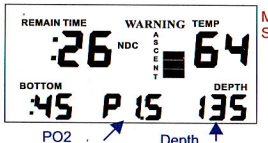
Air Only

Depth
(Flashes when user set maximum depth is exceeded.)

Depth
(Flashes when 327 feet is exceeded or sensor is malfunctioning)

Sensor Failure
(Sensor malfunction, 'T' is Temp Sensor 'd' is Depth Sensor)

Main Screen



Alternate Screen

PO2
(Flashes when user set maximum PO2 value is exceeded.)

Depth
(Flashes when user set maximum depth or 327 feet is exceeded or sensor is malfunctioning.)

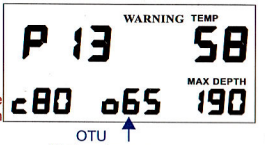
CNS
(Flashes when user set maximum value is exceeded.)

Sensor Failure
(Sensor malfunction, 'T' is Temp Sensor 'd' is Depth Sensor)

Ceiling
(Flashes if depth is less than ceiling.)

Main Screen

Alternate Screen



Depth
(Flashes when depth is less than Ceiling.)

OTU
(Flashes when user set maximum value is exceeded.)

Cochran
Undersea Technology
www.divecochran.com
Ph 972.644.6284 800.856.3483 (US)
Fax 972.644.6286 877.288.3483 (US)

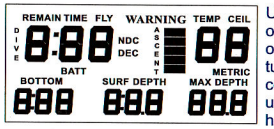
DISPLAY SCREENS

Cochran Commander
One Blend Nitrox

© 2001 Cochran Consulting, Inc.
"CardCmdrFO2" 15June01
Part Number 4100912

Diagnostic Mode (Unit Turning on)

Turn on by touching closest two Contacts on the side with wetted finger or coin.



Unit automatically turns off one hour after a dive or one hour after being turned on. Bridging contacts 1 & 2 will make unit stay on for another hour.

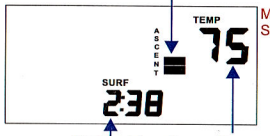
Tap Unit at any time to enable the Alternate Screen and Fiber Optic back light.

Barometric Altitude
(2500 feet per bar
No bars = 0 to 2500)

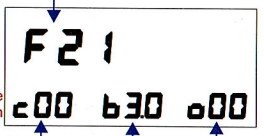
Surface Interval (No Nitrogen)

Nitrox O2%
(Blend #1 Set Point)

Main Screen



Alternate Screen



Surface Interval
(Amount of time since the last dive)

Air Temperature

CNS Oxygen Toxicity in %

Battery Voltage

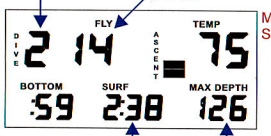
OTU Oxygen Toxicity in %

Surface Interval (With Nitrogen)

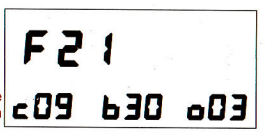
Dive of "Day"
(Repetitive Dive Number)

Time To Fly
(Hours before safely flying.)

Main Screen



Alternate Screen



Bottom Time
(Of the last dive)

Surface Interval
(Amount of time since the last dive)

Max Depth
(Of the last dive)

Fresh batteries are 3.2 volts. Suggest change at 2.1 volts. MUST change before 1.6 volts

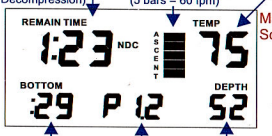
Dive Mode

NDC Time Remain
(Time you can stay at current depth without Decompression)

Ascent Rate
(Bar Graph shows current Ascent Rate)
(5 bars = 60 fpm)

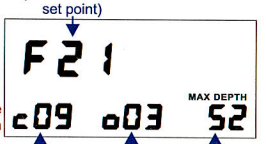
Water Temperature

Main Screen



Nitrox O2%
(Current Blend set point)

Alternate Screen



Bottom Time
(So far this dive)

Current PO2
(in ATA)

Depth
(Depth you are currently at)

CNS Oxygen Toxicity in %

OTU Oxygen Toxicity in %

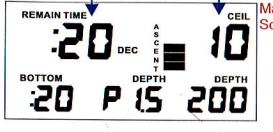
Max Depth
(Of current dive)

Decompression Mode

Deco Stop Times
(Alternates between Total Deco Time & time at the current Stop)

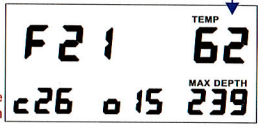
Deco Ceiling
(Don't go above this Depth for optimum Decompression)

Main Screen

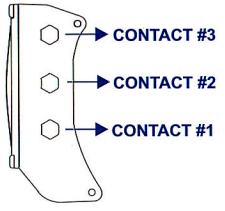


Deco Dive
(Water Temperature)

Alternate Screen



Touch Programming



- To activate touch programming, the unit needs to be in a Normal Surface Interval.
- Shorting contacts 1 & 2 with a coin changes the top level menu selection.
- Shorting contacts 1 & 2 with wet finger takes you into that menu selection.
- The digit that is flashing is the one that is going to be incremented.
- Shorting contacts 2 & 3 with a wet finger or coin increments the digit that is flashing.

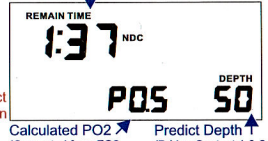
- Shorting contacts 1 & 2 with a wet finger makes the next digit flash.
- Touch Programming is automatically terminated after 5 minutes of no activity.
- Touch Programming is automatically terminated if a dive is started.
- Always scroll back through data to ensure it was entered and stored as desired.
- CLOCK comes from the factory disabled. If enabled, "CLC" will be the first screen seen in Touch Programming. See back page for details.

PreDive Prediction
Main Menu Selection

Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access PreDive Prediction.

Predict Time (h:mm) (Programmed FO2 or PO2 value influences time).



Predict Screen

Calculated PO2 (Computed from FO2 Blend #1 Set Point for predict depth.)

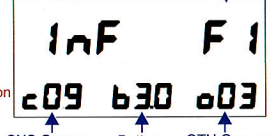
Predict Depth (Bridge Contact 1 & 2 with wetted finger to increment depth).

Information Screen
Main Menu Selection

Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access Information.

Mode/Blend Identifiers (F0=Air only, F1=1 FO2 F2=2 FO2, P1=1 PO2, P2=2PO2).



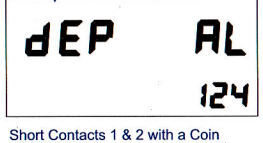
Information Screen

CNS Oxygen Toxicity in %

Battery Voltage

OTU Oxygen Toxicity in %

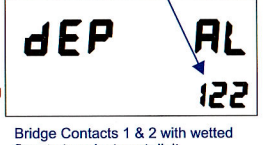
Depth Alarm
Main Menu Selection



Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access Depth Alarm.

Short Contacts 2 & 3 with Coin to increment digit value. (Digit being programmed flashes)



Setting Depth

Bridge Contacts 1 & 2 with wetted fingers to select next digit.

Depth Alarm can be set from 0 to 320 Feet

Conservatism
Main Menu Selection

Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access Conservatism.

Short Contacts 2 & 3 with Coin to increment digit value. (Digit being programmed flashes)

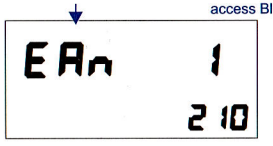
Setting Conservatism

Bridge Contacts 1 & 2 with wetted fingers to select next digit.

Conservatism can be set from 0 (no conservatism) to 50 (Maximum conservatism)

Use only fresh 1.5 volt 'N' cell batteries (Alkaline recommended).
Rinse the unit with clean fresh water after each dive.
Do not put the Commander away while wet.
Do not subject unit to compressed air.
Do not remove the lens from the unit.
Do not use a screwdriver to remove the battery cap.

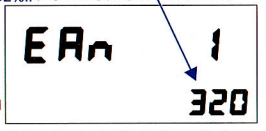
Set Blend #1
Main Menu Selection



Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access Blend #1 O2%..

Short Contacts 2 & 3 with Coin to increment digit value. (Digit being programmed flashes)

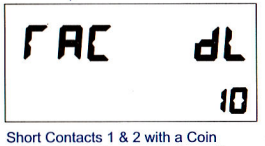


Setting Blend #1 O2%

Bridge Contacts 1 & 2 with wetted fingers to select next digit.

Blend #1 O2 percentage can be set from 21.0 to 50.0%

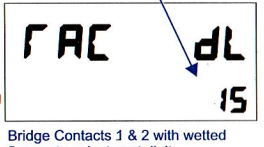
Taclite Dwell Time
Main Menu Selection



Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access Taclite on Time.

Short Contacts 2 & 3 with Coin to increment digit value. (Digit being programmed flashes)



Setting Taclite

Bridge Contacts 1 & 2 with wetted fingers to select next digit.

Taclite delay time can be set from 1 to 98. 0 = Taclite always off. 99 = Taclite always on.

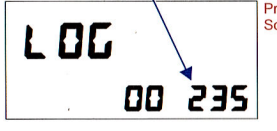
Dive Logbook
Main Menu Selection

Short Contacts 1 & 2 with a Coin selects the next programming option.

Bridge Contacts 1 & 2 with wetted fingers to access Logbook.

Menu Screen W/Dive #

Dive Number. (Most recent displayed first, then next previous)

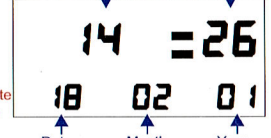


Bridge Contacts 1 & 2 with wetted finger to select next dive.

Primary Screen

Hour 00 to 24

Minutes 00 to 59



Alternate Screen

Date (Of the dive)

Month (Of the dive)

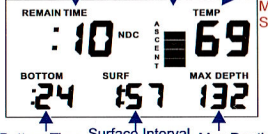
Year (Of the dive)

NDC Time Remain (Amount of NDC time)

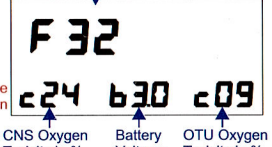
Ascent Rate (Maximum Ascent Rate during dive)

Water Temperature

Nitrox O2% (Of current Blend set point).



Main Screen



Alternate Screen

Bottom Time (Of the dive)

Surface Interval (Amount of time prior to the dive)

Max Depth (Of the dive)

CNS Oxygen Toxicity in %

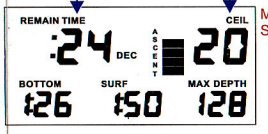
Battery Voltage

OTU Oxygen Toxicity in %

Normal Dive

DEC Time Remain (Max amount of Deco time)

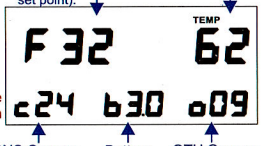
Max Deco Ceiling



Main Screen

Nitrox O2% (Of current Blend set point).

Deco Dive (Water Temperature)



Alternate Screen

Short Contacts 1 & 2 with a Coin exits programming.

CNS Oxygen Toxicity in %

Battery Voltage

OTU Oxygen Toxicity in %

Deco Dive

POST DIVE INTERVAL

The first ten minutes after a dive the Commander will be in the Post Dive Interval Mode.

This is indicated by the 'SURF' legend flashing once per second.

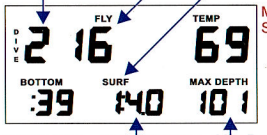
If a dive is initiated while the Commander is in this mode it will be considered a continuation of the previous dive.

Dive of "Day" (Repetitive Dive Number)

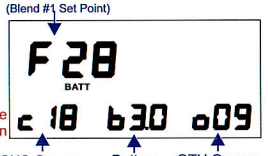
Time To Fly (Hours before safely flying.)

SURF legend (Flashing.)

Nitrox O2% (Blend #1 Set Point)



Main Screen



Alternate Screen

Bottom Time (Of the last dive)

Surface Interval (Amount of time since the last dive)

Max Depth (Of the last dive)

CNS Oxygen Toxicity in %

Battery Voltage

OTU Oxygen Toxicity in %

Ascent Rate Bar Graph in Feet Per Minute (fpm)

Via the Analyst, the Ascent Bar Graph can be set to:
- Variable-by-depth where Bar value determined by depth:
  - 60 feet and deeper - 60 fpm
  - 59 to 30 feet - fpm equal to depth
  - Less than 30 feet - 30 fpm
- Proportional Each Bar is 20% of selected rate
- Fixed (Speed) Each bar is 10 fpm
- Sensitivity from 0 to 7 (See Manual)

Greater than 60 Feet Per Minute, WARNING and top bar of graph will flash.

Current factory settings for the Ascent Rate Bar Graph are: Variable-by-depth, Proportional, with a Sensitivity of '3' (Nominal). Subject to change without notice.

Fixed at 60 fpm

ASCENT
- 50 fpm or more
- 40 To 49 fpm
- 30 To 39 fpm
- 20 To 29 fpm
- 10 To 19 fpm

Variable-by-depth and Proportional Selected

Depth less than 30 ft

ASCENT
- 25 fpm or more
- 20 To 24 fpm
- 15 To 19 fpm
- 10 To 14 fpm
- 5 To 9 fpm

Depth Greater than 60 ft

ASCENT
- 50 fpm or more
- 40 To 49 fpm
- 30 To 39 fpm
- 20 To 29 fpm
- 10 To 19 fpm