

**Instruction Manual  
for the  
SCUBAPRO  
Wrist Dive Computer**

Xtender





# Contents

<b>1. Overview</b>	<b>p2</b>	<b>4. Description of functions common to all modes</b>	<b>p57</b>
1-1. Function Overview	p2	4-1. Clock function	p57
1-2. Operation keys	p3	4-2. Daily alarm / time tone function	p58
1-3. Settings when the system is reset	p3	4-3. Altitude measurement judgment function	p58
<b>2. Display and Operation Specifications</b>	<b>p4</b>	4-4. Audible alarms	p60
2-1. LCD Panel Layout	p4	4-5. BLD detection function	p62
2-2. Function of operation keys	p4	4-6. Surface interval display function	p63
<b>3. Description of Mode States &amp; Operation Display</b>	<b>p5</b>	4-7. Desaturation time display function	p63
3-1. Time mode	p5	4-8. PGT level and oxygen limited indicator display function	p63
3-2. Time Set mode	p7	4-9. Jump function	p63
3-3. Alarm mode	p11	4-10. Auto return function	p64
3-4. Alarm Set mode	p13	4-11. Display unit selector function	p64
3-5. Dual Time mode	p15	4-12. Default setting function	p64
3-6. Dual Time Set mode	p17		
3-7. Dive Plan mode	p19		
3-8. Dive Set mode	p22		
3-9. Dive Log mode	p25		
3-10. History Clear mode	p32		
3-11. Dive Profile mode	p33		
3-12. PC Transfer mode	p37		
3-13. Dive mode	p38		
3-14. Locked states	p54		

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# 1. Overview

## 1.1 Function Overview

**Xtender is a mobile dive computer for underwater diving that measures depth during dives and, based on the measured values, calculates and displays a variety of dive data, including such critical data as a diver's body oxygen level and the level of nitrogen that has dissolved into the diver's body. The functions of the dive computer are outlined below.**

- Clock function: internal full-auto calendar clock (with auto leap year recognition and auto month-end recognition)
- Daily alarm function
- Time tone function
- Dual time function
- 12-hour clock/ 24-hour clock selector function
- EL backlight function
- Dive data functions:
  - depth measurement
  - dive time measurement
  - water temperature measurement
  - surface interval count
  - alarms
- Log memory function: Saves and displays logs for up to 30 dives
- History function: Saves and displays the total number of dives (up to 999) and total dive time (up to 999 hours and 59 minutes)
- Profile function: Saves depths at set times during a dive, and displays
- Profile time (Pt) setting function
- PC download function: Transfers log and profile data to a PC
- Altitude measurement / altitude rank function
- User safety factor (USF) setting function
- m/ft selector function

## 1-2. Operation keys

- There are four keys for user operations: the A key, B key, C key, and D key.
- The E key serves as a water detection switch.

## 1-3. Settings when the system is reset

Item	State
Mode	Time mode
Time	12:00 00 sec. AM (12-hour clock)
Time (dual time)	12:00 00 sec. AM (12-hour clock)
Daily alarm	12:00 AM (chime: off)
Time tone	Off
Ascent rate warning alarm	On
Calendar	January 1, 2003
Depth	0 m
Altitude rank	Determined by measured value after reset
FO2 setting	Air (21%)
Inert gas level (PGT)	0 (none)
Oxygen limit indicator (OLI)	0 (none)
Desaturation time (DESAT)	0 (none)
Profile time (Pt)	30 sec.
User safety factor (USF)	0
Units	m / °C (Celsius)
Log memory	Continued from before
History memory	Continued from before
Profile memory	Continued from before
Other data memory	All cleared (0)

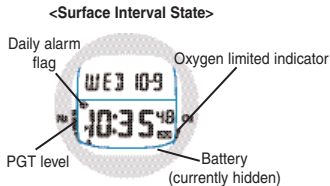
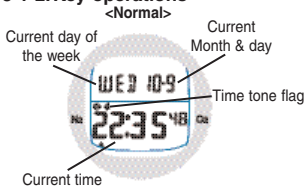


# 3. Description of Mode States & Operation Display

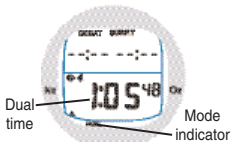
## 3-1. Time mode

- Time mode is the default state during normal use and during surface intervals.
  - All display segments flash when the dive computer is locked in the out-of-range state or when it is locked in the decompression stop violation state.
  - The demand displays for the dual time clock, DESAT, and surface interval interfaces appear while the C key is pressed.
- ### 3-1-1. Display

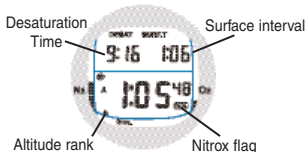
#### 3-1-2. Key operations



#### <Time Demand display (Normal)>



#### <Time Demand display (Surface Interval)>



### 3-1-3. Description of Time mode functions

Key Entry / State	Time	Surface interval of under 10 minutes
A key	To Alarm mode	←
B key	To Time Set mode	Invalid (audible alarm)
C key pressed	Time demand display and backlight on	←
D key	Backlight on	←
C & D key	Alarm test	←
E key: water detection switch	To Dive mode	←
E key (when BLD is detected, an altitude rank error occurs, locked in the decompression stop violation state, locked in the out-of-range state)	Invalid (audible alarm sounds while ON)	←

#### (1) Clock function

- Keeps time, and displays a calendar and the current time.

#### (2) Demand display function

- Press the C key to invoke the demand display.

#### (3) EL backlight function

- The electroluminescent backlight illuminates for 2 to 3 seconds after the C key or D key is pressed.
- When the C key is entered, the demand display simultaneously appears.
- Continuously pressed and held keys are ignored. (The backlight illuminates for 2 to 3 seconds from the time the key is first pressed.)
- Input from the C and D key is ignored while the backlight is illuminated. (The



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backlight goes off 2 to 3 seconds after the key is first pressed.)

- If a mode changing key is pressed while the backlight is on, the backlight immediately goes off and the selected mode is invoked.

#### **(4) Alarm test function**

- Simultaneously press the C key and D key to test the audible alarm.

#### **(5) Lock state reset function**

- In the out-of-range lock state and decompression stop violation lock state, simultaneously press and hold the C key and D key for 15 seconds to clear the lock state and access the normal state.

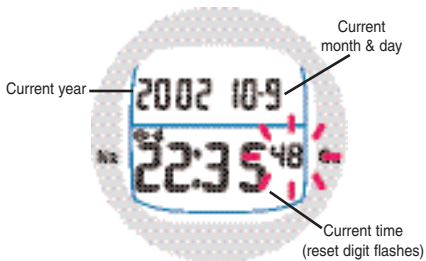
### **3-2. Time Set mode**

- Time Set mode is used to set the current time, the current date, and the time format (12- or 24-hour clock).
- Time Set mode cannot be accessed until a surface interval of at least 10 minutes has elapsed.

#### **3-2-1. Display**

#### **3-2-2. Key operations**

### 3-2-3. Description of Time Set mode functions



#### (1) Selecting columns to be adjusted

- Press the C key to select the column to be adjusted.

Key Entry /State	Set Seconds	Set Minutes	Set Hour	Set Year	Set Month	Set Day	Set Time Format
A key	Invalid	←	←	←	←	←	←
B key	To Time mode	←	←	←	←	←	←
C key	To minute setting	To hour setting	To year setting	To month setting	To day setting	To clock format setting	To seconds setting
D key	Reset	00-59 Minute setting	0-23 Hour setting	2003-2050 Year setting	1-12 Month setting	Day setting	Toggle between 12h & 24h
D key pressed	Invalid	Minute setting (Fast-forward)	Hour setting (Fast-forward)	Year setting (Fast-forward)	Month setting (Fast-forward)	Day setting (Fast-forward)	Invalid

Key Entry /State	Set Seconds	Set Minutes	Set Hour	Set Year	Set Month	Set Day	Set Time Format
C & D key	Fully illuminated display	←	←	←	←	←	←
No key operated for 2–3 minutes	To Time mode	←	←	←	←	←	←
E key: water detection switch	To Dive mode	←	←	←	←	←	←
E key (when BLD is detected, an altitude rank occurs, locked in the decompression stop violation state, located in the out-of-range state)	Invalid (Alarm sounds while on)	←	←	←	←	←	←

- The columns are selected in the following order:  
second → minute → hour → year → month → day →  
12/24-hour clock selection → second → ... (loop)
- The selected column flashes.
- Columns continue to flash at the same pace during data adjustment, even if a valid key entry is made.

## (2) Adjustment method

- Columns are incremented by a value of 1 each time the D key is pressed.
- Pressing and holding down the D key for 1 to 2 seconds speeds up D key entry (fast-forwarding).

### a) Adjusting the seconds display

Pressing the D key once between 0 and 29 seconds causes the seconds to be rounded down to 0 without changing the minutes column. Pressing the D key once between 30 and 59 seconds causes the minute column to be rounded up. (One minute is added to the minute column).When the

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minute column shows 59 minutes, a one is added to the number in the hour column. The day, month, and year columns are similarly incremented. For example, if the seconds column is reset on December 31, 2003, at 23 hours, 59 minutes, and 45 seconds, the time will change to January 1, 2004, 0 hours, 0, minutes, 0 seconds.

**b) Adjusting the day display**

Months that have 31 days can be set to any day up to 31.

Months that have 30 days can be set to any day up to 30.

February can be set to any day up to 28, except in a leap year, when it can be set up to the 29th.

(Days that do not exist, such as June 31, November 31, and so forth, are not displayed.)

When the day is being adjusted, the month column does not change even after the last day in the month is passed. (The day loops, without affecting the month.)

**c) Adjusting the month display**

The end of the month is controlled during adjustment of the month column, and days that do not exist are handled as follows. If the dive computer indicates the 31st day of a month when the display is reset to a month with 30 days, the day column will indicate the first day of that month, since the 31st day does not exist.

Examples:

If the D key is pressed once when the dive computer indicates May 31, the date will change to June 1 (because there are not 31 days in June).

If the D key is pressed once when the dive computer indicates January 30, the date will change to February 1 (because February 30 does not exist).

Note: In the case of a leap year, if the D key is pressed once when the dive computer indicates January 29, the dive computer will indicate February 29. The year column does not change when the month column changes from December to January. (The month loops, without affecting the year column.)

#### **d) Adjusting the year display**

The year can be set from 2003 up to 2050. (After passing 2050, the year display loops back to 2003.) Leap years are automatically detected.

#### **(3) Carrying of numbers during adjustments**

- Numbers are carried over normally.
- Except when the seconds setting is being adjusted, numbers are not carried over to the next highest place during adjustments. For example, when the D key is used to adjust the minutes setting from 59 minutes to 00 minutes, the hour column is not changed. Or, when the D key is used to adjust the hour setting from 23 hours to 0 hours, the day does not change.

#### **(4) Selecting the 12- or 24-hour clock**

- Either a 12-hour clock format or a 24-hour clock format can be selected. Toggle between the 12-hour and 24-hour clock formats by pressing the D key.
- In the 12-hour format, an "A" appears from the hours of 12:00 a.m. to 11:59 a.m., and a "P" appears from the hours of 12:00 p.m. to 11:59 p.m.

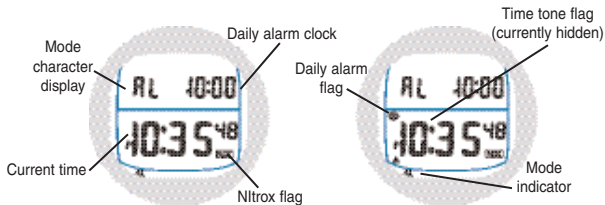
#### **(5) Full illumination function**

- Simultaneously pressing the C and D keys causes the entire display to light up.
- The dive computer does not automatically return to Time mode from the fully illuminated screen.
- Pressing any key while the screen is fully illuminated invokes Time mode.

### **3-3. Alarm mode**

- Alarm mode turns the daily alarm and time tone ON/OFF.
- All display segments flash when locked in the out-of-range state or when locked in the decompression stop violation state

#### **3-3-1. Display**



**3-3-  
2.  
Key**

## operations

Key Entry / State	Alarm Mode
A key	To Dual Time mode To Time mode after key operation *1
B key	To Alarm Set mode
C key	Sets the alarm
D key	Backlight on
No key operated for 2 - 3 minutes	To Time mode
E key: water detection switch	To Dive mode
E key (when BLD is detected, an altitude rank error occurs, locked in the decompression stop violation state, locked in the out-of-range state)	Invalid (audible alarm sounds while ON)

\*1 After a key is operated in Alarm mode (for example, the C key was pressed to set the alarm, the B key was used to access and then return from Alarm Set mode, or the D key was pressed to turn on the backlight), the dive computer jumps to Time mode when the A key is pressed. (This function is hereafter referred to as a "jump function.")

### 3-3-3. Description of Alarm mode functions

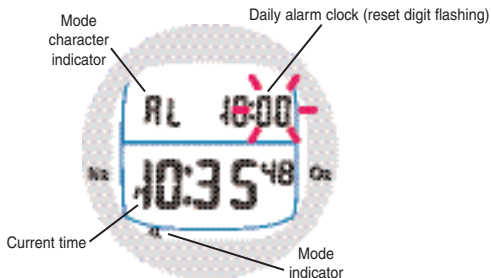
#### (1) Daily alarm/time tone setting function

- Pressing the C key switches the daily alarm and time tone ON/OFF.  
(Daily alarm : Time tone) = (OFF:OFF) → (ON:OFF) → (OFF:ON) → (ON:ON)  
→ (OFF:OFF) → ... (loop)
- The daily alarm flag lights up when the daily alarm is turned ON. The time tone flag lights up when the time tone is turned ON.
- When they are ON, the alarm flag and the time tone flag are on in all modes except Log mode, History Clear mode, Dive Profile mode, and PC Transfer mode.

### 3-4. Alarm Set mode

- A mode for setting the daily alarm clock

#### 3-4-1. Display



### 3-4-2. Key operations

Key Entry / State	Daily Alarm	
	Minute column setting	Hour column setting
A key	Invalid	←
B key	To Alarm mode	←
C key	To daily alarm hour column setting	To daily alarm minute column setting
D key	00 – 59 min. setting	0 – 23 hour setting*1
D key pressed continuously	Minute setting (fast-forward)	Hour setting (fast-forward)
No key operated for 2–3 minutes	To Time mode	←
E key: water detection switch	To Dive mode	←
E key(when BLD is detected, an altitude rank error occurs, locked in the decompression stop violation state, locked in the out-of-range state)	Invalid (Audible alarm sounds while ON)	←

\*1 For the 12-hour clock format, set from 1 to 12.

### 3-4-3. Description of Alarm Set mode functions

#### (1) Selecting the column to be adjusted on the daily alarm clock

- Press the C key to select the column to be adjusted.
- The columns are selected in the following order:  
Minute column → Hour column → Minute column → ...(loop)
- The selected column flashes.



## (2) Adjustment method

- A value of 1 is added each time the D key is pressed.
- Adjustments are speeded up if the D key is held down for 1 to 2 seconds.
- If the daily alarm is OFF at the time the daily alarm clock setting is changed, the daily alarm is automatically turned ON.

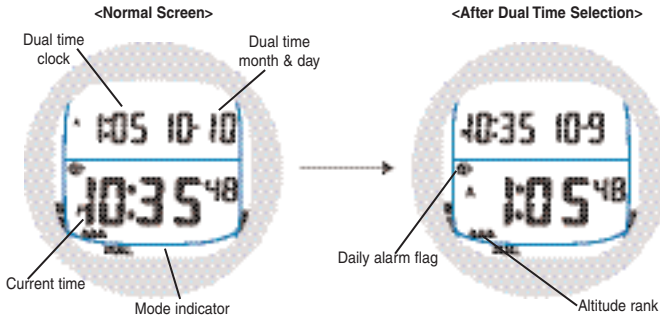
## (3) Carrying numbers during adjustment

- Numbers are not carried over to the next column during adjustments. For example, if the D key is used to change the minutes setting from 59 minutes to 00 minutes, the hour column does not change.

## 3-5. Dual Time mode

- A mode for selecting dual time
- All display segments flash when locked in the out-of-range state or when locked in the decompression stop violation state

### 3-5-1. Display



### 3-5-2. Key operations

Key Entry/State	Dual Time	Surface Interval of Under 10 min.	When Locked
A key	To Dive Plan mode To Time mode after key operation	←	To Dive Log mode To Time mode after key operation
B key	To Dual Time Set mode	Invalid (audible alarm)	To Dual Time Set mode
C key	Dual time selection	Invalid (audible alarm)	Dual time selection
D key	Backlight on	←	←
No key operated for 2-3 minutes	To Time mode	←	←
E key: water detection switch	To Dive mode	←	Invalid (audible alarm sounds while ON)
E key (when BLD is detected, an altitude rank error occurs, locked in the decompression stop violation state, locked in the out-of-range state)	Invalid (audible alarm sounds while ON)	←	←

### 3-5-3. Description of Dual Time mode functions

#### (1) Dual time functions

- In addition to the current time, the dive computer can display the time in one other time zone. (This function is known as "dual time.")
- Dual time is set within  $\pm 23$  hours and 30 minutes of the current time.

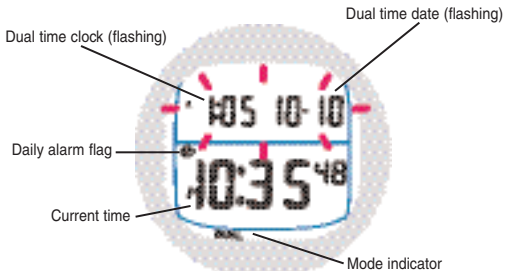
## (2) Dual time selector function

- Press the C key to toggle between the time zones (dual times).
- If the surface interval is less than 10 minutes, dual time cannot be switched, and an alarm sounds when the C key is ON.

## 3-6. Dual Time Set mode

- Dual Time Set mode is used to set the dual time clocks.
- If the surface interval is less than 10 minutes, Dual Time Set mode cannot be accessed.

### 3-6-1. Display



### 3-6-2. Key operations

Key Entry / State	Dual Time Set
A key	Invalid
B key	To Dual Time mode
C key	Dual time clock UP (30 min)
C key pressed and held	Dual time clock UP (fast-forward)
D key	Dual time clock DOWN (30 min)
D key pressed and held	Dual time clock DOWN (fast-forward)
No key operated for 2 - 3 minutes	To Time mode
E key: water detection switch	To Dive mode
E key (when BLD is detected, an altitude rank error occurs, locked in the decompression stop violation state, locked in the out-of-range state)	Invalid (audible alarm sounds while ON)

### 3-6-3. Description of Dual Time Set mode functions

#### (1) Adjustment method

- Press the C key once to add 30 minutes.
- Press the D key once to subtract 30 minutes.
- The adjustable range is up to  $\pm 23:30$ . Key entries after the time has been adjusted up to the limit are ignored. For example, if the current time is 14:23 on February 15, the C key can be used to adjust dual time up to 13:53 on February 16. Once that time setting has been reached, no additional time can

be added and all C key entries are ignored. (There is no particular beep or other sound to indicate when C key entries are being ignored.)

- Time loops between December 31, 2050 and January 1, 2003.
- Hold down either the C key or the D key to speed up (fast-forward) adjustments.

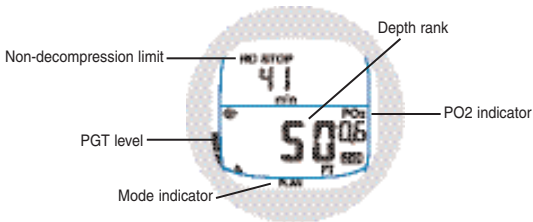
## (2) Carrying numbers during adjustment

- Numbers are carried over to the next column (hour, day, month) when needed during adjustments. For example, if the C key is used to reset the minutes setting from 30 minutes to 00 minutes, a value of one will be added to the hour column when 00 is reached. Similarly, if the D key is used to change the minutes setting from 00 minutes to 30 minutes, a value of one will be subtracted from the hour column. If the C key is used to reset the time from 23:30 to 0:00, a value of one will be added to the date in dual time.

## 3-7. Dive Plan mode

- Dive Plan mode is used to set the depth rank and to derive the non-decompression limit at that depth.
- When the dive computer is locked in the out-of-range state or locked in the decompression stop violation state, Dive Plan mode is skipped.

### 3-7-1. Display



### 3-7-2. Key operations

Key Entry / State	Dive Plan	Surface Interval of Under 10 min.
A key	To Dive Log mode To Time mode after key operation	←
B key	To Dive Set mode	Invalid (audible alarm) However, if FO2 is in the default state, Dive Set mode can be accessed
B key pressed and held for 14 – 15 sec	Toggles between meters and feet. (on the face of Dive Set mode)	←
C key	Increases the depth rank count (in 3 m/10 ft increments)	←
D key	Decreases the depth rank count (in 3 m/10 ft increments)	←
C + D key pressed and held for 14 – 15 sec.	Toggles audible ascent rate warning alarm ON/OFF	←
No key operated for 2 - 3 minutes	To Time mode	←
E key: water detection switch	To Dive mode	←
E key (when BLD is detected or upon an altitude rank error)	Invalid (audible alarm sounds while ON)	←

### 3-7-3. Description of Dive Plan mode functions

#### (1) Depth rank selection function

- Each time the C key is pressed, 3 m (10 ft) is added [from 9 m (30 ft) up to 48 m (160 ft)].  
9 m (30 ft) → 12 m (40 ft) → → 45 m (150 ft) → 48 m (160 ft) (no loop)
- Each time the D key is pressed, 3 m (10 ft) is subtracted [from 48 m (160 ft) up to 9 m (30 ft)]  
48 m (160 ft) → 45 m (150 ft) → → 12 m (40 ft) → 9 m (30 ft) (no loop)
- Holding the keys down does not speed up adjustments.
- After Dive Plan mode is accessed, the display always starts from 9 m (30 ft) (display order 1)
- As shown in the following table, there are 14 depth ranks.

Display Order	Depth Rank	Display Order	Depth Rank	Display Order	Depth Rank
1	9 m (30 ft)	6	24 m (80 ft)	11	39 m (130 ft)
2	12 m (40 ft)	7	27 m (90 ft)	12	42 m (140 ft)
3	15 m (50 ft)	8	30 m (100 ft)	13	45 m (150 ft)
4	18 m (60 ft)	9	33 m (110 ft)	14	48 m (160 ft)
5	21 m (70 ft)	10	36 m (120 ft)		

#### (2) Dive plan function

- Used to set the depth rank data and to check the non-decompression limit (NDL) for the first dive and for repetitive dives at that depth rank.
- However, if PO<sub>2</sub> reaches or exceeds 1.4, the bar display shows "- - -".

#### (3) m/ft selector function

- Press and hold the B key for approximately 15 seconds to toggle the depth and

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temperature display units between meters and degrees Celsius (m & °C) and feet and degrees Fahrenheit (ft & °F). (The default setting is m & °C).

- The Dive Set mode screen appears once the B key is pressed. The unit display changes if the B key is held down continuously.

#### **(4) Audible ascent rate violation alarm ON/OFF selector function**

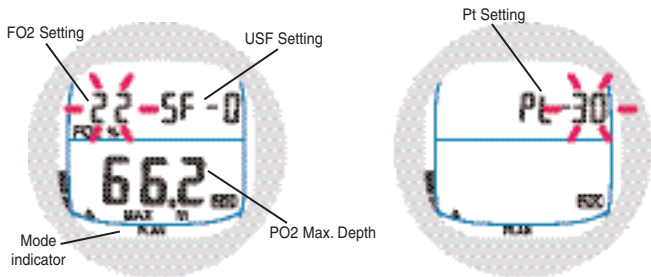
- Simultaneously press and hold the C key and D key for approximately 15 seconds to toggle the audible ascent rate warning ON/OFF. (The default setting is ON.)
- When the audible alarm is switched ON or OFF, a confirmation tone sounds once.
- When the audible alarm is turned back ON, the SLOW flag flashes for 1 second.

### **3-8. Dive Set mode**

- A mode for setting the fraction of oxygen (FO<sub>2</sub>), the User Safety Factor (USF), and the profile time (Pt).
- Dive Set mode cannot be accessed if the surface interval is less than 10 minutes and FO<sub>2</sub> is not in the default state.
- Dive Set mode can be accessed if the surface interval is less than 10 minutes but FO<sub>2</sub> is in the default state.
- When the out-of-range state or decompression stop violation state are locked, Dive Set mode cannot be accessed, since Dive Plan mode is skipped.



### 3-8-1. Display



### 3-8-2. Key operations

Key Entry	FO2 Setting	User Safety Factor (USF) Setting	Profile Time (Pt) Setting
A key	Invalid	←	←
B key	To Dive Plan mode	←	←
C key	To USF setting	To Pt setting	To FO2 setting
D key	Air (21%) – 99% setting	Toggles between 0 & 1	Toggles between 30 & 15
D key pressed & held	FO2 setting (Fast-forward)	Invalid	Invalid

Key Entry	FO2 Setting	User Safety Factor (USF) Setting	Profile Time (Pt) Setting
No key operated for 2 - 3 minutes	To Time mode	←	←
E key: water detection switch	To Dive mode	←	←
E key (when BLD is detected or an altitude rank error occurs)	Invalid (audible alarm sounds while ON)	←	←

### 3-8-3. Description of Dive Set mode functions

#### (1) Selecting the data to be adjusted

- Press the C key to select the data to be adjusted.
- The data are selected in the following order:  
FO2 → USF → Pt → FO2 → ... (loop)
- When the surface interval is less than 10 minutes in the default state, C key entries are invalid. (Only FO2 can be adjusted.)
- The selected data flashes.

#### (2) Adjustment method

##### a) Adjusting the FO2 setting

- The FO2 setting is increased by 1% each time the D key is pressed.
- Setting range: Air (21) → 22 → 23 → ... → 98 → 99 → Air (21) → 22 → ... (loop)
- To speed up FO2 adjustments, press and hold the D key for 1 to 2 seconds.
- The FO2 indicator temporarily stops at 32% and at 99% during fast-forwarding with the D key.
- When in the default state (entered when the date changes when FO2 is 22% or higher), the FO2 indicator shows " -- ".

- Press the D key from the default state to invoke the Air setting.
- When FO2 is set to any percentage from 22% to 99%, the NX flag lights up when the dive computer is in Time mode, Alarm mode, Dual Time mode, Dive Plan mode, Dive Set mode, or Dive mode. If FO2 is set to the default, the NX flag flashes in the aforesaid modes.

#### **b) Adjusting the USF setting**

- The USF setting toggles between 0 and 1 each time the D key is pressed. (The default setting is 0.)
- Pressing and holding the D key does not speed up USF adjustment.

#### **c) Adjusting the Pt setting**

- The Pt setting toggles between 30 and 15 each time the D key is pressed. (The default setting is 30).
- Pressing and holding the D key does not speed up the Pt adjustment.

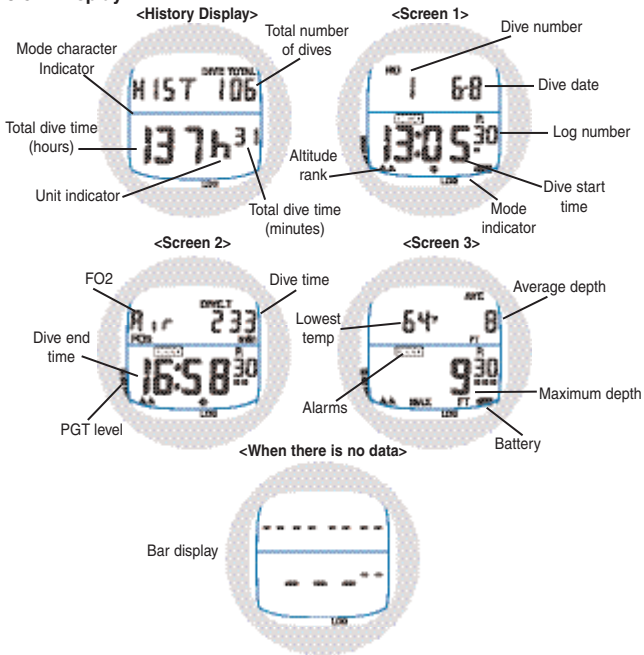
### **(3) PO2 maximum depth display function**

- Displays the maximum depth at which a PO2 will remain below 1.4 at the FO2 setting.
- When FO2 is set to the default, bars appear in the FO2 segment. When set to Air, the display does not appear.

### **3-9. Dive Log mode**

- A mode in which data displayed, the data is saved if the diver stays submerged for at least three minutes at a depth of 1.5 m or greater.
- Data is sequentially saved each time a dive is made. The dive computer can hold log data for up to 30 dives. Once the 30-dive limit is reached, the oldest log data is cleared each time a new dive is made.

### 3-9-1. Display



### 3-9-2. Key operations

Key entry	Dive Log *1	Surface Interval of under 10 min.	No log data, EEPROM error
A key	To Dive Profile mode To Time mode after key operation	←	←
B key	To History Clear mode when pressed while the history is displayed Invalid when entered in any other screen	Invalid (Audible alarm sounds if the history is displayed)	Invalid
C key	Increases the log No.	←	Invalid
C key pressed and held	Increases the log No. (fast-forwards to screen 1)	←	Invalid
D key	Moves to log screen 1 or decreases the log No.	←	Invalid
D key pressed and held	Decreases the log No. (fast-forwards to screen 1)	←	Invalid
No key operated for 2 - 3 minutes	To Time mode	←	←
E key: water detection switch	To Dive mode	←	←
E key (when BLD is detected, an altitude rank error occurs, locked in the decompression stop violation state, locked in the out-of-range state)	Invalid (audible alarm sounds while ON)	←	←

\*1 The history display (or bar display when there is no data) appears as soon as Dive Log mode is accessed.

### 3-9-3. Description of Dive Log mode functions

#### (1) Memory recall function

• The following history data and log data saved in Dive mode are displayed:

- ◆ Total number of dives
- ◆ Total dive time
- ◆ FO2 concentration
- ◆ Dive date
- ◆ Altitude rank at dive start
- ◆ Number of dives that day
- ◆ Dive start time
- ◆ Dive end time
- ◆ Dive time
- ◆ Maximum depth
- ◆ Average depth
- ◆ Lowest water temperature
- ◆ Log number
- ◆ PGT level at end of dive
- ◆ Oxygen limit indicator at end of dive
- ◆ Decompression dive warning
- ◆ Decompression stop violation warning
- ◆ Ascent rate warning
- ◆ Out-of-range warning
- ◆ PO2 warning
- ◆ OLI warning

• Data limits are as shown in the following table.

<b>History Data</b>	<b>Total number of dives</b> 999	<b>Total dive time</b> 999:59(h:m)			
<b>Log Data</b>	<b>Dive time</b> 599 minutes	<b>Maximum depth</b> 99.9 m (328 ft)	<b>Average depth</b> 99.9 m (328 ft)	<b>Lowes water temperature</b> - 5.0 to 45.°C (23 to 113°F)	<b>Altitude Rank</b> 3
	<b>PGT Level</b> 9	<b>OLI Level</b> 8	<b>No. of dives</b> 10	<b>FO2</b> 21—99%, default	<b>Log No.</b> 30

- History data and log data are saved in memory if the diver descends to a depth of 1.5 m (5 ft) or more and stays at that depth for 3 minutes or more when the dive computer is in Dive mode.
- If the total number of dives in the history exceeds 999 dives, the counter rolls over from 999 to 0 → 1 →  
(In other words, dive number 1000 would be 0, dive number 1001 would be 1, dive number 2002 would be 2, and so forth.)
- If the total dive time in the history exceeds 999 hours and 59 minutes, the counter rolls over from 999h59 to 0h00 → 0h01 →  
(In other words, the 1000th hour would be 0h00; 1000 hours and 1 minute would be 0h01; 2000 hours and 2 minutes would be 0h02; and so forth.)
- Log data and profile data are a set. A maximum of 30 logs/profiles can be saved in memory. Once the 30 logs/profiles limit is exceeded, the oldest log/profile data is automatically cleared.
- Even if the 30 logs/profiles limit has not been reached, the oldest log/profile data is automatically cleared when there is no more available space in memory.
- Dive numbers are saved in memory from numbers 1 through 10. The 11th dive is saved as 1.
- The history display is always the first display to appear when Dive Log mode is accessed. If the D key is then pressed, the most recent data saved in memory (that with the highest number) is displayed. For example, if the memory contains logs 1 through 13, the history display appears first, and log 13-1 appears when the D key is pressed.
- Press the C key to switch the log data display.  
(oldest) 1-1 → 1-2 → 1-3 → 2-1 → → 29-3 → 30-1 → 30-2 → 30-3 (newest)  
→ history display
- If the D key is pressed when either Screen 2 or Screen 3 is displayed, the dive computer moves to Screen 1 of that log. If Screen 1 is displayed, the dive computer moves to Screen 1 of the next oldest log (the next lowest log number).

Ex. 1) If Screen 2 of log number 5 is displayed, then the dive computer moves as follows:

5-2 → 5-1 → 4-1 → 3-1 → 2-1 → 1-1

Ex. 2) If Screen 3 of log 17 is displayed, the dive computer moves as follows:

17-3 → 17-1 → 16-1 → 15-1 → → 2-1 → 1-1

- The log does not loop but only moves back and forth as follows:  
history display → newest → ... → oldest
- Press and hold the C key or the D key to fast-forward to Screen 1 of each log.  
Holding the C key:  
1-1 → 2-1 → 3-1 → → 29-1 → 30-1 → history display  
Holding the D key:  
history display → 30-1 → 29-1 → 28-1 → → 2-1 → 1-1
- If an EEPROM access error occurs, or if there is no log data, a bar display will appear when Dive Log mode is accessed.
- When the bar display appears, History Clear mode cannot be accessed.
- If FO2 is the default state, the display will show " – " %, and the NX flag will flash.

### • Alarm indicators

The following warnings are displayed in the log if they are recorded in Dive mode:

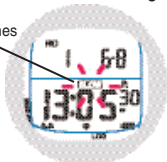
- Ascent rate warning. If an ascent warning is continuously issued during a dive and an ascent rate warning is saved in memory, the SLOW flag flashes.
- Decompression dive warning. If a decompression dive has been entered even one time, a decompression dive warning is saved in memory and the DECO flag lights up when the log is displayed.
- Decompression stop violation warning. If a decompression violation has occurred even one time, a decompression stop violation warning is saved in memory and the DECO flag flashes when the log is displayed.
- Out-of-range warning. If the diver dives beyond the measurement range, an out-of-range warning is saved in memory and the display segment flashes when the log is displayed.



- PO2 warning. If a PO2 warning is issued even one time, a PO2 warning is saved in memory and the PO2 flag flashes when the log is displayed.
- OLI warning. If the OLI reaches 8 even one time, an OLI warning is saved in memory and the OLI flag flashes when the log is displayed. (When the OLI is 0, the OLI flag does not appear.)

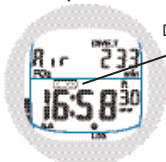
<Ascent rate warning>

SLOW flag flashes



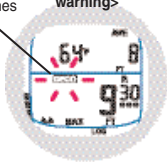
<Decompression Dive>

DECO flag lights up



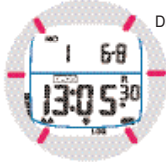
<Decompression stop violation warning>

DECO flag flashes



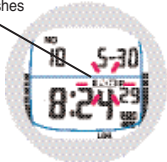
<Out-of-range warning>

Display segments flash at 1 Hz



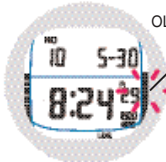
<PO2 warning>

PO2 flag flashes



<OLI warning>

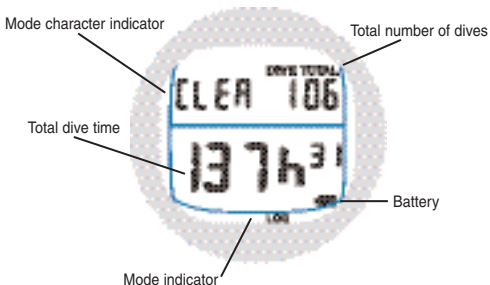
OLI bar graph flashes



### 3-10. History Clear mode

- History Clear mode individually deletes history data (total number of dives and total dive times).
- History Clear mode cannot be accessed if the surface interval is less than 10 minutes, if there is no log data, or if an EEPROM access error has occurred.

#### 3-10-1. Display



### 3-10-2. Key operations

Key Entry / State	History Clear
A key	Invalid
B key	To Dive Log mode history screen
C key is pressed & held for 4 - 5 sec.	Clear total number of dives
D key is pressed & held for 4 - 5 sec.	Clear total dive time
No key operated for 2 - 3 minutes	To Time mode
E key: water detection switch	To Dive mode
E key (when BLD is detected, when an altitude error occurs, when locked in the decompression stop violation state, when locked in the out-of-range state)	Invalid (audible alarm sounds while ON)

### 3-10-3. Description of History Clear mode functions

#### (1) History memory clear functions

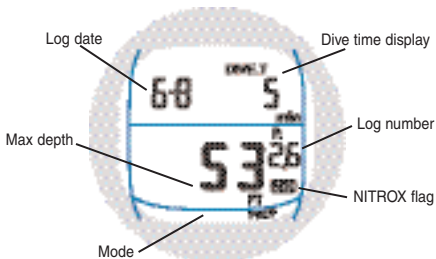
- The moment the C key is pressed, the total number of dives segment and "CLEA" segment begin flashing. If the C key is held down for approximately 5 seconds, the total number of dives is cleared to "0".
- The moment the D key is pressed, the total dive time segment and "CLEA" segment begin flashing. If the D key is held down for approximately 5 seconds, the total dive time changes to "0h00".

### 3-11. Dive Profile mode

- A mode that shows the maximum depth at each profile time setting for dives saved in Dive Log mode.

- Profile data is saved sequentially for each log. The dive computer holds profile data for a maximum of 30 dives. If more dives are performed, or if the memory becomes full, the oldest data is cleared from memory.

### 3-11-1. Display



### 3-11-2. Key operations

Key Entry	Dive Profile	Surface Interval of under 10 min.	No log data, EEPROM error
Every 2 seconds.	Display changes (DIVE.T count increases)	←	Bar display
A key	To Time mode	←	←
B key	To PC Transfer mode	Invalid (audible alarm)	Invalid
C key	Selects log (No. gets smaller)	←	Invalid
C key pressed and held	Fast-forwards log selection (No. gets smaller)	←	Invalid
While D key pressed	Stops the update of profiles	←	Invalid
No key operated for 2 - 3 minutes	To Time mode	←	←
E key: water detection switch	To Dive mode	←	←
E key (when BLD is detected, an altitude error occurs, decompression stop violation lock, out-of-range state lock)	Invalid (audible alarm sounds while ON)	←	←

### 3-11-3. Description of Dive Profile mode functions

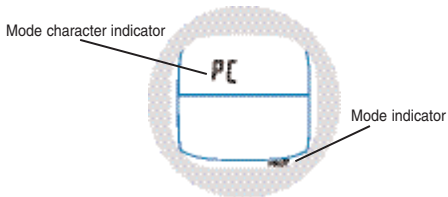
#### (1) Memory recall function

- Displays depth data and dive time saved in Dive mode at intervals determined by the profile time set.
- The following log data is also displayed in the log saved in that profile. (Data limits are the same as those in Dive Log mode.)
  - \* FO2
  - \* Log No.
  - \* NX flag (for nitrox dives)
- Data for a maximum of 30 profiles and logs is saved in memory. Once the 30 profile/log limit is reached, the oldest log/profile data is automatically cleared.
- Even if the 30 logs/profiles limit has not been reached, the oldest log/profile data is automatically cleared when there is no more available space in memory.
- When Dive Profile mode is accessed, the first profile in the new log is displayed. For example, if memory contains logs 1 through 13, then the first profile of log 13 is displayed.
- The profile display is automatically updated every 2 seconds in the direction that the dive time advances. It stops the last profile of that log is displayed.
- Each time the display is automatically updated, the DIVE.T flag flash.
- Press the C key to switch to another log.
  - (newest) 30 → 29 → → 2 → 1 (oldest) → 30 (newest) → 29 → (loop)
- If the log data changes, the first profile of that log is displayed.
- Press and hold the C key to fast-forward to the first profile of each log. When fast-forwarding through the logs, the dive computer stops once at the oldest log (No. 1).
  - 30 → 29 → → 2 → 1 (stops temporarily here) → 30 → 29 → (loop)
- Automatic switching of the profile is halted while the D key is held down.
- If an EEPROM access error occurs, and if there is no log data, a bar display will appear when Dive Profile mode is accessed.
- When the bar display appears, PC Transfer mode cannot be accessed.

### 3-12. PC Transfer mode

- A mode in which dive computer data can be transferred between a PC and the dive computer.
- PC Transfer mode cannot be accessed if the surface interval is less than 10 minutes, if there is no log data, or if an EEPROM access error has occurred.
- In PC Transfer mode, neither altitude rank nor BLD is measured.

#### 3-12-1. Display



#### 3-12-2. Key operations

Key Entry	PC Transfer
A key	Invalid
B key	To Dive Profile mode
C key	Invalid
D key	Invalid
No key entry for 14 – 15 min.	To Time mode
E key: water detection switch	Invalid
At end of PC transfer	To Time mode

---

### 3-12-3. Description of PC Transfer mode functions

#### (1) PC transfer function

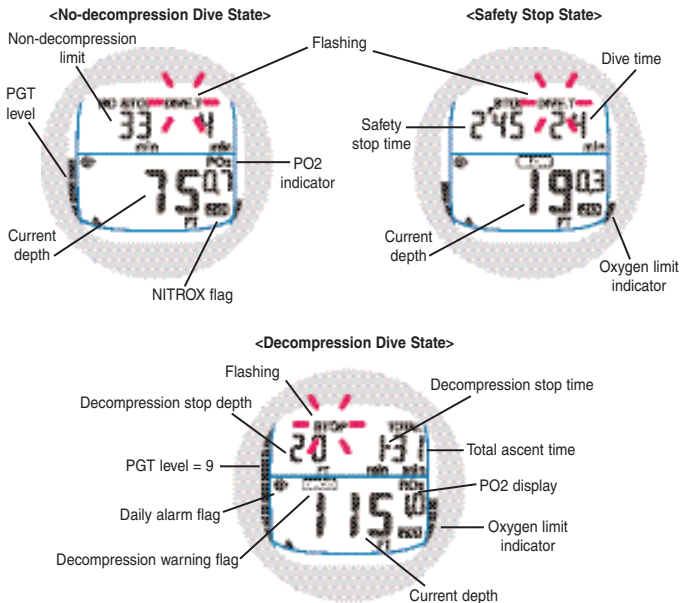
- Transfers data from the dive computer to a PC, or from a PC to the dive computer.

### 3-13. Dive mode

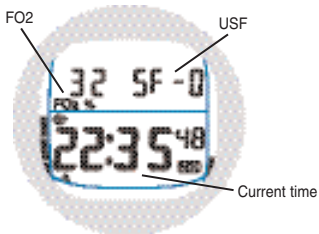
- A mode that indicates conditions during a dive, Dive mode includes the non-decompression state, the decompression state, Safety Stop state, and the out-of-range state.
- The non-decompression state is for dives that do not exceed the non-decompression limit.
- The decompression state is for dives that exceed the non-decompression limit. There are three decompression states: (1) the decompression dive state (invoked when the non-decompression limit has been exceeded, and indicates the depth at which a decompression stop is required); (2) the decompression stop violation state (invoked when the current depth is shallower than the indicated decompression stop depth in the decompression dive state); and (3) the decompression stop violation lock state (invoked if the surface interval has exceeded 10 minutes when the diver is at a depth of 1.4 m or less while the dive computer is in the decompression stop violation state. This state is locked at the same time the log is finalized.)
- Safety Stop state is a state wherein the diver is advised to make a 3-minute safety stop if he/she ascends to a depth of 6.0 m or less after diving to a depth of 10 m or more. Stop time is counted down between 6.0 m and 1.5 m. If during the stop time the diver descends again to a depth of 6.1 m or more, the stop time is temporarily halted. If the diver descends again to a depth of 10 m or more, the safety stop counter is reset.
- There are two demand displays: Dive Demand A, which shows the current time, FO2, and USF; and Dive Demand C, which shows the maximum depth, current water temperature, and dive time. Dive Demand A is displayed while the A key is pressed. Dive Demand C is displayed while the C key is pressed.



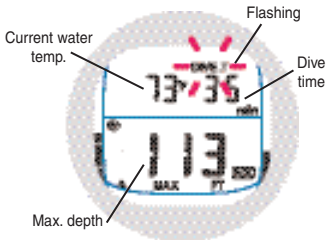
### 3-13-1. Display



&lt;Dive Demand A&gt;



&lt;Dive Demand C&gt;



### 3-13-2. Key operations

Key Entry / State	Non-decompression dive state	Decompression dive state, decompression stop violation state
A key pressed and held	Dive Demand A and backlight on	←
B key	Invalid	←
C key pressed and held	Dive Demand C and backlight on	←
D key	Backlight on	←
Depth of 1.4 m or less detected Switch OFF	To Time mode	Invalid
Depth of 1.5 m or more detected Switch OFF	Invalid (stays in Dive mode)	←

### 3-13-3. Description of Dive mode functions

#### < Functions common to all states >

##### (1) EL backlight function

- In Dive mode, pressing the A key, C key, or D key causes the backlight to come on for 2 to 3 seconds. (The A key and C key also invoke the demand display at this time.)
- Continuously pressed and held keys are ignored. (The backlight stays on for 2 to 3 seconds from the time the key is first pressed.)
- Entries from the D key are ignored while the backlight is on. (The backlight goes off 2 to 3 seconds after a key is pressed once.)
- If the A key or C key is pressed while the backlight is on, a demand operation is performed, but the backlight stays on for 2 to 3 seconds from the time it was first turned on.

##### (2) Depth measurement function

- Measures depth by means of an A/D converter, and calculates and displays the depth value on the basis of the measurement.
- Measurement interval: 1 sec.
- Measurement range: 0.0 m – 99.9 m
- Measurement start: from E key ON detection
- Measurement stop: to E key OFF detection
- Display units: 0.1 m (1 ft)
- Anomalous display: when depth measurement exceeds 99.9 m, bars are displayed instead of numbers, as follows:  
"---. ." m ("--- "ft)

##### (3) Dive time measurement function

- This function measures dive time during depth measurement.
- Measurement range: 0 – 599 min.
- Measurement start: begins when a depth of 1.5 m or greater is detected

- Measurement stop: counting continues until the log is finalized upon the elapse of a 10-minute surface interval.
- A dive time of 3 minutes or more is considered to be one dive, and the dive number is incremented by a value of 1. At this point, log data can be saved in memory. (If 600 minutes elapse, thereby taking the dive computer out-of-range, the total dive time in the history will be saved as 600 minutes.) No log data is saved for dive times of less than 3 minutes.

#### **(4) Average depth calculation function**

- This function calculates the average depth while in Dive mode.
- The average depth is displayed only in Dive Log mode.
- If the average depth exceeds 99.9 m (judged using meters), a bar display appears on the Dive Log mode display.

#### **(5) Maximum depth memory function**

- The maximum depth reached since the start of the dive is saved in memory and displayed in Dive Demand C.
- The maximum depth at the time the dive is finalized is saved in memory and displayed in Dive Log mode.
- If the maximum depth exceeds 99.9 m, a bar display appears.

#### **(6) PGT bar graph display function**

- The Pressure of Gas in Tissue (PGT) value is indicated by a bar graph.
- The bar graph has from 1 to 9 bars. Once the PGT reaches 9, the diver has entered a decompression dive.
- If the PGT reaches a value of 9 via a change in the altitude rank during the surface interval state, Dive mode cannot be accessed even if the E key comes ON, and an audible alarm sounds.

#### **(7) Oxygen limited indicator bar graph display function**

- The oxygen limited indicator (OLI) value is displayed by means of a bar graph.
- The bar graph has from 1 to 8 bars.

## **(8) PO2 indicator function**

- Displays the PO2 level.
- The PO2 indicator appears only if the FO2 setting has been set to 22% or higher (nitrox), and when FO2 setting is Air, the display does not appear.
- The display appears at a depth of 1.5 m or greater and disappears at a depth of 1.4 m or less.

## **(9) Water temperature measurement function**

- Measures water temperature.
- The display appears in Dive Demand C.
- Measurement interval: 1 min.
- Display measurement range: -5.0 – 45.0°C (23 – 113°F)
- Display units: 0.1°C (1°F)
- Anomalous display: "Lo" appears if a temperature of less than -5°C is detected.  
"Hi" appears if a temperature of more than 45°C is detected.

## **(10) Lowest water temperature memory function**

- The lowest water temperature at the time a dive is finalized is saved in memory and displayed in Dive Log mode.

## **(11) Ascent rate violation warning function**

- The ascent rate warning is indicated by a 6-second flashing of the current depth and SLOW flag displays. An audible alarm also sounds for 3 seconds for each warning.
- If the ascent rate warning disappears, the SLOW flag disappears.
- If two consecutive ascent rate warnings are issued, the ascent rate warnings are saved as log data.

## **(12) Log, history and profile memory function**

- Profile memory can be created for each dive, up to a dive time of 600 minutes.
- If the dive time for a single dive extends beyond 600 minutes, thereby going

beyond the measureable range, the total dive time will be saved in the history as 600 minutes.

- If the total number of dives has exceeded 999, then the counter rolls over from 999 back to 0 → 1 and the data is saved.
- If the total dive time has exceeded 999 hours and 59 minutes, then the counter rolls over from 999h59 to 0h00 → 0h01 → and the data is saved

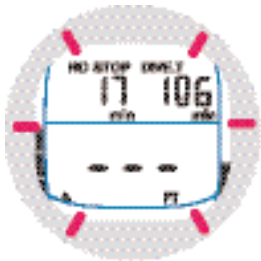
### **(13) Out-of-range warning function (including warnings in the decompression dive state)**

- The following conditions exceed the measureable range of the dive computer and cause an out-of-range warning display to appear and an audible alarm to sound.
  - 1. The depth exceeds the 99.9 m measurement limit → bars appear in the depth indicator**
  - 2. The dive time exceeds the 599 minute measurement limit → bars appear in the dive time indicator**
  - 3. Decompression becomes necessary at depths where the decompression stop depth exceeded 30 m (100 ft) → decompression stop depth displayed**
  - 4. The decompression stop time at the indicated decompression stop depth during a decompression dive exceeded 99 minutes, or the total ascent time exceeded 99 minutes. → bars appear in each time indicator**
- Out-of-range warnings cause all display segments to flash.
- As soon as an out-of-range numeric value returns to within the measurement range, the bars disappear and the measured value is indicated.
- An audible alarm sounds when a warning is issued, and the display segment continues to flash until a surface interval of 48 hours has passed.
- Out-of-range warnings are saved in memory when they occur.
- If the E key goes OFF at a depth of 1.4 m or less, Dive mode cannot be accessed even if the E key comes back ON. (An audible alarm sounds to indicate that accessing Dive mode is prohibited.) However, if the C key and D key are simultaneously pressed and held for approximately 15 seconds in Time

mode when the E key is OFF and the depth is 1.4 m or less, the lock state is reset, and the same processing is performed as when a surface interval of 48 hours has elapsed. (This reset operation also works even if the surface interval is less than 10 minutes.)

- When an out-of-range warning is issued, the lock state is instantaneously invoked the moment a depth of 1.4 m or less is reached and the E key goes OFF.
- Logs are finalized as usual after a surface interval of 10 minutes has elapsed.

**< Example of when the depth has exceed the measurement limit >**



At the point where the depth exceeds 99.9 m, bars appear in the current depth and maximum depth segments, and all segments on the display flash.

**(14) PO2 warning display**

- If PO2 increases from a state of 1.3 or less and reaches 1.4 or 1.5, the PO2 value and PO2 flag flash for 15 seconds and an audible alarm sounds twice, for three seconds each time.

- 
- While PO2 is 1.4 or 1.5, the PO2 flag stays continuously lit.
  - If PO2 reaches or exceeds 1.6, an audible alarm sounds twice, for three seconds each time, and the PO2 value, PO2 flag, and OLI bar graph (all 8) flash. Flashing continues until the PO2 falls back to 1.5 or less.
  - PO2 warnings are logged.
  - If FO2 is 21% (air), neither the PO2 indicator nor the PO2 warning appear.

#### **(15) Oxygen limited indicator warning display**

- If the oxygen limited indicator reaches 7, the OLI bar graph (7 bars) flashes for 15 seconds, and an audible alarm sounds twice, for three seconds each time.
- If the oxygen limited indicator reaches 8, an audible alarm sounds twice, for three seconds each time, and the OLI bar graph (8 bars) stays continuously lit until the oxygen limit indicator falls back to 7.
- The warning is logged at the point where the oxygen limit indicator reaches 8.
- If the water detection switch comes ON in the surface interval state when the OLI is either 7 or 8, the respective warnings described above are issued.

#### **(16) Default warning function**

- If the E key comes ON and Dive mode accessed when FO2 is in the default state, an audible alarm sounds twice, for three seconds each time.
- The FO2 values in Dive Demand A are replaced by bars.
- Default warnings are not logged.

#### **(17) Reset function**

- A function that clears Dive mode when a change in atmospheric pressure is detected, such as when aboard an aircraft in flight. Pressing and holding the C + D keys for approximately 15 seconds when the depth is 1.5 m or greater and when the water detection switch is OFF initiates a reset.

Reason: If the atmospheric pressure value falls 1500 m or more when the water detection switch is ON (for example, when the water detector is turned ON during flight and stays ON during descent, etc.), the dive computer remains



at 1.5 m or more and stays in Dive mode even after the water detection switch is turned OFF. Since leaving Dive mode requires an ascent to an altitude of 1400 m or less versus the measured altitude, the reset function was enabled.

Dive information at the time a reset is performed is not logged.

- After a reset operation, the dive computer enters normal Time mode.

### <Functions in the non-decompression dive state>

- When the decompression dive state is entered, the DECO flag icon flashes and an audible alarm sounds twice, for three seconds each time. The DECO flag remains lit thereafter for the duration of the decompression dive.

#### (18) PGT alarm function

- When the PGT bar graph reaches 7 or 8 from a level of 6 or less, the PGT bar graph flashes for 15 seconds and an audible alarm is issued.
- PGT alarms are not logged.

#### (19) Safety stop function

- Prompts the diver to make a 3-minute safety stop when he or she ascends to a depth of 6.0 m from a depth of 10 m or more in Non-Decompression Dive state.
- The safety stop clock starts at 3 minutes and 00 seconds. Time is counted down in 1-second increments at a depth of less than 6.0 m and more than 1.5 m. After the display reaches 0 minutes and 01 seconds, the NDL display reappears after a 1-second interval.
- Once a depth of 1.4 m or less is reached, the counter is cleared and the NDL display reappears.
- If a depth of 6.1 m is measured again while the safety stop is indicated, the countdown clock is temporarily stopped and the value is saved as the NDL display reappears.
- If the diver descends again to 10 m or more, the counter is cleared.
- If a decompression dive is started on a dive that reaches 10 m or more,

- a 3-minute safety stop will begin after a decompression stop at 3 m is finished.
- If the dive computer is set to display feet, the safety stop clock starts at a depth of 20 ft.

### <Functions in the decompression dive state>

- A decompression dive starts when the PGT reaches 9. The dive computer returns to the non-decompression dive state at a PGT of 8 or less.
- Decompression dive information is displayed.
- If the dive computer enters the decompression dive state even once, the decompression dive is saved as log data

#### 1. Decompression stop depth (ceiling)

- Once notification of a depth exceeding 30 m (33 m or more) is received, an out-of-range warning is issued.
- The decompression stop depth is indicated in 3 m intervals between the depths of 3 m and 99 m (or, when units are displayed in feet, at 10-foot intervals between the depths of 10 ft to 330 ft.)

#### 2. Decompression stop time (DECO STOP) and total ascent time (TOTAL STOP)

- If the indicated decompression stop time and total ascent time exceeds 99 minutes, the display segment shows "- -" and an out-of-range warning is issued.

#### (20) Decompression stop violation warning function

- If the depth measurement is smaller than the indicated decompression depth during a decompression dive, a decompression stop violation warning is issued.
- When a decompression stop violation is issued, the indicated current depth, decompression depth, decompression time and DECO mark flash continuously.
- When a decompression stop violation occurs, an audible alarm sounds.
- If the depth measurement becomes equal to or greater than the decompression depth during the decompression stop violation state, the display stops flashing.

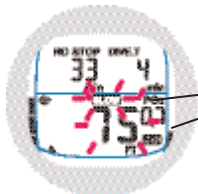
- 
- If a decompression stop violation warning is issued even once, the decompression stop violation is saved in log data.
  - When the dive computer is in the decompression stop violation state, even if a depth of 1.4 m or less is detected and the dive computer detects that the E key is OFF, the display will continue to indicate a decompression stop violation (until the log is finalized).
  - When the surface interval exceeds 10 minutes while the dive computer is in the decompression stop violation state and while at a depth of 1.4 m or less, the dive computer assumes the decompression stop violation lock state (the state is locked at the time the log is finalized). The display segment flashes and Dive mode cannot be accessed until a surface interval of 48 hours has elapsed. If the E key is pressed in this state, an audible alarm sounds, indicating that the dive computer is locked in the current state. The decompression stop violation display is unlocked and normal operations are restored after a surface interval of 48 hours has elapsed, or if the C key and D key are simultaneously pressed and held for approximately 15 seconds in Time mode.

### < Warning displays >

### Ascent rate warning

If the ascent rate is too rapid, the diver is notified by a display such as that shown below and by an audible alarm. The display and alarm continue until the diver returns to a safe ascent rate or reaches a depth of 1.4 m or less. If two consecutive ascent rate warnings are issued, the warnings are logged.

### Decompression dive warning



The SLOW flag and current depth indication flash for 6 seconds, and an audible alarm sounds for 3 seconds.

If the non-decompression dive time limit is exceeded and the decompression dive state is entered, the diver is notified by a display such as that shown below and by an audible alarm. (After that, the decompression dive state display reappears). The warning is logged.

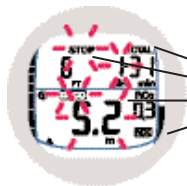
### Decompression stop violation warning



The DECO flag flashes for 15 seconds, and an audible alarm sounds twice, for 3 seconds each.

If the current depth is shallower than the indicated decompression stop depth, the diver is notified by a display such as that shown below and by an audible alarm. The display and alarm stop if the diver returns to or below the indicated depth. If the diver does not return to the indicated depth, the warning continues, and if the diver ascends, the display is locked when the log is finalized. The lock state is cleared after 48 hours. The decompression stop violation is logged.

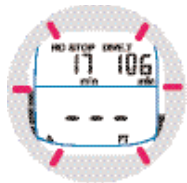
### Out-of-range warning



The DECO flag, current depth indication, decompression stop depth indication, and decompression stop time indication all flash, and an audible alarm sounds twice, for 3 seconds each time.

If the dive computer is out of the measurement range, all display segments flash as shown below, and the diver is warned by an audible alarm when entering the out-of-range condition. After an out-of-range dive, the display remains locked for 48 hours from the time the water detection switch went OFF or from the time the log is finalized. The warning is logged.

### OLI warning



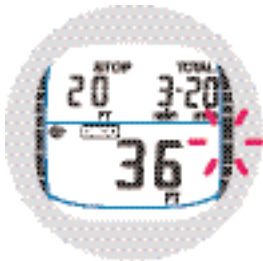
All indicated flags flash, and an audible warning sounds twice, for 3 seconds each time.

When the oxygen limited indicator (an indicator of the calculated body oxygen level) reaches 7, the OLI bar graph (7 bars) flashes for 15 seconds and an audible alarm sounds twice, for three seconds each time.

When the oxygen limited indicator reaches 8, an audible alarm sounds twice, for three seconds each time, and the OLI bar graph (8 bars) stays continuously flashed until the OLI level reaches 7. As soon as the oxygen limited indicator reaches 8, the warning is saved in the log.

If the water detection switch comes ON when the dive computer is in the surface interval state and the OLI is at either 7 or 8, the aforesaid warnings are issued.

### **PO2 warning**



The OLI bar graph flashes and an audible alarm sounds.

When the FO2 is air, the PO2 indicator and PO2 warning are not invoked, but if the FO2 is 22% or greater (including when in the default state), the PO2 indicator and PO2 warning are invoked. The PO2 warning has two stages.

When PO2 increases to 1.4 or 1.5, the PO2 value and PO2 flag flash for 15 seconds, and an audible alarm sounds twice, for three seconds each time. (If PO2 decreases to 1.4 or 1.5, this does not happen.) The PO2 flag remains lit while PO2 is 1.4 or 1.5.

If PO2 reaches 1.6 or higher, an audible alarm sounds twice, for three seconds each time, and the PO2 value, PO2 flag, and eight OLI flags all continue to flash until the PO2 decreases to 1.5 or less. PO2 warnings are saved in the log.

#### Default warning

< PO2 = 1.4 >



The PO2 flag and PO2 value flash and an audible alarm sounds twice, for 3 seconds each time.

< PO2 = 1.6 >



The PO2 flag, PO2 value, and OLI bar graph flash and an audible alarm sounds

When the E key comes ON and causes Dive mode to be accessed while the FO2 setting is in the default state, an alarm sounds twice, for three seconds each time. Default warnings are not saved in the log.

### 3-14. Locked states



The NX flag flashes and an audible alarm sounds twice, for 3 seconds each time.

- The states in which the display is locked in the out-of-range state or decompression stop violation state.
- In Time mode, Alarm mode, and Dual Time mode, all display segments flash.
- Dive Plan mode, Dive Set mode, and Dive mode cannot be accessed while the dive computer is in the locked state. (Dive Plan mode is skipped.)
- The locked state is cleared when a 48-hour surface interval has elapsed or when a user reset is performed by simultaneously pressing and holding the C key and D key for 15 seconds in Time mode.



### 3-14-1. Display

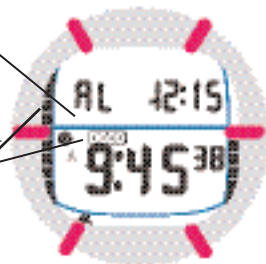
< Out-of-Range Lock State >

< Decompression Stop Violation  
Lock State >



Fully flashing  
display

Nine PGT bars +  
DECO flag



### 3-14-2. Key operations

Key Entry / State	Decompression stop violation lock state (PGT1 – 9 and DECO flags lit), and out-of-range state locked *1
A key	Changes the mode *2 To Time mode after key operation However, Dive Plan mode is skipped and cannot be accessed.
B key	Normal operation
C key pressed and held	Performs the operation in the respective modes
D key	Performs the operation in the respective modes
Water detection switch ON	Invalid (an alarm sounds while ON)
C + D key pressed and held for 14 – 15 sec. in Time mode	Reset

\*1 Basically, all display segments flash (except in Set mode, etc.)

When the dive computer is locked in the decompression stop violation state, the DECO flag also flashes in modes where flashing occurs.

\*2 Time → Alarm → Dual Time → Dive Log → Dive Profile → Time → (loop)

## 4. Description of functions common to all modes

### 4-1. Clock function

#### 4-1-1. Hours, minutes, seconds

- The time is displayed in hours, minutes, and seconds in either the 12-hour clock format or the 24-hour format.
- Time is carried over as shown in the following table.

12-Hour Clock Display	24-Hour Clock Display
PM 11:59(59)	23:59(59)
AM 12:00(00)	0:00(00)
—	—
AM 12:59(59)	0:59(59)
AM 1:00(00)	1:00(00)
—	—
AM 11:59(59)	11:59(59)
PM 12:00(00)	12:00(00)
—	—
PM 12:59(00)	12:59(59)
PM 1:00(00)	13:00(00)
—	—
PM 11:59(59)	23:59(59)

## 4-1-2. Calendar

- The day rolls over when the clock rolls over from 23:59 (59) to 0:00(00).
- Month end  
January, March, May, July, August,  
October, December: 31 days  
April, June, September, November: 30 days  
February: 28 days (29 days in a leap year)

## 4-1-3. Day of the week display

- The day of the week is display using a three-letter abbreviation.

Day of the Week	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Display	SUN	MON	TUE	WED	THU	FRI	SAT

## 4-2. Daily alarm / time tone function

- When the daily alarm is set to ON and the set daily alarm time is reached, an alarm sounds.
- The daily alarm clock is set in Alarm Set mode.
- When the time tone is set to ON, a time tone sounds every hour on the hour.

## 4-3. Altitude measurement judgment function

- Altitude is measured in all modes except Dive mode and PC Transfer mode.
- The altitude rank indicator is updated every ten minutes, when the number in the 10's place on the current time clock changes. In other words, updating occurs when the minutes place shows 10, 20, 30, 40, 50, or 00.
- The altitude rank flag is not displayed in Time Set mode, Alarm Set mode, Dual Time Set mode, History Clear mode, Dive Profile mode, PC Transfer mode, or when the history is displayed in Log mode.
- In Log mode, data saved in the log is displayed.

- Altitude ranks and altitudes are displayed as shown in the following table.

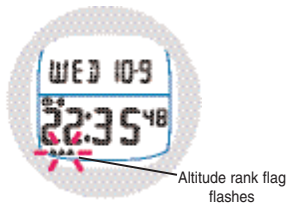
Altitude Rank	Altitude	Altitude Rank Display
0	1000 m or less	None
1	700 – 1800 m	Lights at rank 1
2	1500 – 2600 m	Lights at rank 2
3	2300 – 6000 m	Lights at rank 3
Error	6000 m or more	Flashes at rank 3

- If an A/D error occurs, all mountain icons flash, and the Plan mode NDL indicator shows "--". If the E key comes ON when there is an altitude rank error, an audible alarm sounds, and Dive mode cannot be accessed.
- Dive mode cannot be accessed when nine bars in the PGT bar graph are lit due to a change in the altitude rank in the surface interval state. If the E key comes ON in this state, an audible alarm continues to sound until the E key goes OFF.

< Altitude Ranks 1, 2, 3 Display >



< Altitude Rank Error Display >



#### 4-4. Audible alarms

Function	Conditions	Alarm Time
Time tone	Sounds every hour on the hour while the time tone setting is ON	Time tone
Daily alarm	Sounds at the set alarm clock time when the alarm setting is ON <ul style="list-style-type: none"> <li>• Along with the audible alarm, an alarm flag flashes for 20 seconds regardless of whether in normal operations or on a dive.</li> </ul>	Audible alarm Normal: 20 sec. During dive: 3 sec.
Ascent rate alarm ON/OFF selector	Sounds when the C + D keys are pressed and held continuously for 14 – 15 seconds in Plan mode	Confirmation tone
History clear	Sounds when reset was performed by pressing and holding the C key or D key for 4 – 5 seconds in History Clear mode	Confirmation tone
Ascent rate violation	Sounds when an ascent is too rapid	Audible alarm for 3 sec.
When transitioning to a decompression dive	Sounds when entering a decompression dive from a non-decompression dive	Audible alarms for 3 sec. x 2
Decompression stop violation	When the current depth becomes shallower than the decompression stop depth	
When entering out-of-range	<ul style="list-style-type: none"> <li>• When depth exceeds 99.9 m</li> <li>• When dive time exceed 599 min.</li> <li>• When decompression stop depth exceeds 30 m</li> <li>• When decompression stop time exceeds 99 min.</li> <li>• When total ascent time exceeds 99 min.</li> </ul>	

Function	Conditions	Alarm Time
OLI warning	<ul style="list-style-type: none"> <li>• When OLI increases and reaches 7</li> <li>• When OLI reaches 8</li> </ul>	Audible alarm for 3 sec. x 2
PO2 warning	<ul style="list-style-type: none"> <li>• When PO2 increases and reaches 1.4, 1.5</li> <li>• When PO2 reaches 1.6</li> </ul>	
Default warning	Sounds when Dive mode is accessed when FO2 is - -%	
PGT ALARM	Sounds when the inert gas level bar graph reaches 7 or 8	Audible alarm for 3 sec. x 2 times
Set prohibited and Set mode access prohibited alarm	Sounds when the B key is ON in order to access Time Set mode, Dual Time Set mode, or History Clear mode before a surface interval of 10 min. has elapsed, or when the C key is ON in order to switch the dual time setting	Audible alarm for 3 sec.
Dive mode access prohibited alarm	<ul style="list-style-type: none"> <li>• Sounds when the E key is ON when an altitude rank error occurs</li> <li>• Sounds when the E key comes ON when locked in out of range and locked in a decompression stop violation</li> <li>• Sounds when E key comes ON when BLD is detected</li> <li>• Sounds when the E key comes ON when nine bars on the PGT bar graph are shown due to a change in altitude</li> </ul>	Audible alarm (sounds until E key goes OFF)

\* Audible alarms cannot be turned off by pressing keys.

\* If alarms overlap, the first alarm stops, and the next alarm begins.

\* Only the daily alarm can be turned off by pressing a key. There is a 20-second window

after the alarm starts for it to be turned off. Turning off the alarm also causes the flag to stop flashing and become solidly lit.

- \* Alarms in Dive mode stop when both a depth of 1.4 m or less is reached and the E key goes OFF.
- \* Alarms indicating that setting is prohibited or that a setting mode cannot be accessed stop when the E key comes ON.

#### 4-5. BLD detection function

- BLD is detected every 10 minutes in all modes and states except Dive mode and PC Transfer mode.
- The BLD has two stages. When battery voltage decreases, BLD1 comes ON first. BLD2 comes ON when voltage decreases further.
- Dive mode cannot be accessed while BLD1 or BLD2 is detected.
- BLD display: Indicated by a battery mark

Voltage	BLD1	BLD2	Battery Mark
> 2.7 V	OFF	OFF	Off
2.7 V – 2.6 V	ON	OFF	Flashing
< 2.6 V	ON	ON	Lit



#### **4-6. Surface interval display function**

- After accessing Time mode from Dive mode, the display is invoked by a time demand.
- Measurement range: 0:00 – 48:00
- One minute after the elapse of 48:00, a bar display "- :- -" appears.
- Time Set mode, Dual Time Set mode, Dive Set mode (except by default), History Clear mode, and PC Transfer mode cannot be accessed nor can the dual time setting be changed until a surface interval of 10 minutes has elapsed.

#### **4-7. Desaturation time display function**

- After accessing Time mode from Dive mode, the display is invoked by a time demand.
- The desaturation time display is updated every minute on the minute or when the altitude rank changes based on altitude measurements.
- After the last 0:00 data is received, the desaturation time display columns show bars "-- : --" after one minute has elapsed.

#### **4-8. PGT level and oxygen limited indicator display function**

- Displays the PGT and OLI bar graphs.
- When the altitude rank changes on the basis of altitude measurements, and when PGT and OLI are displayed, the display is updated every minute on the minute.
- The PGT gas level graph and the oxygen limited indicator graph are not displayed in Time Set mode, Alarm Set mode, Dual Time Set mode, Log mode, the history screens in Log mode, History Clear mode, Dive Profile mode, or PC Transfer mode.
- Logged data is displayed on Screens 1, 2, and 3 of Log mode.

#### **4-9. Jump function**

- The dive computer jumps to Time mode when the mode is changed by press-

---

ing the A key after any of the other keys has been pressed (for example, after the B key was pressed to return from the set mode, after the C key was pressed to change a setting, or after the D key was pressed to turn on the backlight) while in Alarm mode, Dual Time mode, Dive Plan mode, or Dive Log mode (modes other than Time mode and Dive mode).

#### **4-10. Auto return function**

- In all modes except Dive mode or Time Set mode (when all segments are lit), the dive computer automatically enters Time mode if no key is operated for 2 - 3 minutes (or, in PC Transfer mode, 14 - 15 minutes). (In Dive Profile mode, the dive computer enters Time mode 2 to 3 minutes after the display is automatically updated.)

#### **4-11. Display unit selector function**

- By default, depth measurements are displayed in meters and water temperature in degrees Celsius. However, the units used to indicate depth and temperature can be switched to feet and degrees Fahrenheit by pressing and holding the B key for approximately 15 seconds in Dive Plan mode.

#### **4-12. Default setting function**

- After passing the midnight hour (0:00) with the FO2 setting at 22% or higher (mixture other than air), the dive computer returns to the default state, bars (" - ") appear in the FO2 indicator, and the NX flag flashes.
- Moving to Dive mode in the default state causes a default warning to be issued.
- During dives in the default state, calculations are performed using an algorithm that employs an oxygen concentration (FO2) of 99% and a nitrogen concentration of 79%.









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