TAC-300

COMBAT SWIM BOARD

OPERATIONS MANUAL

RJE International, Inc.

YOUR SOURCE FOR DIVER NAVIGATION AND UNDERWATER RELOCATION EQUIPMENT

TAC300-1 UNDERWATER COMPASS MAINTENANCE

The TAC300-1 Underwater Compass requires very little care. However, this is a precision instrument and should be treated as such. The entire compass should be periodically removed from the TAC-300 Board and rinsed with clear water and dried with a soft cloth to maintain clear vision. If air bubbles appear in the dome or any other problems should occur, contact RJE International, Inc. for service.

TAC-300 SPECIFICATIONS

Board & Compass

Material	HDPE Plastic
Size	7.0" x 10.25" x 3" (18cm x 26cm x 7.5cm)
Unit Weight	2.7lbs (1.2Kg)
Compass Illumination	8-10 hours
TAC-LITE Operational Life	120 hours

DG100 SPECIFICATIONS

Depth Range	0-330ft. (0-100m)
Depth Tolerance	±1% of full scale
Depth Resolution	0.1ft/0.1m
Display	Red OLED
Timer Tolerance	± 1%
Leg Timer Functions	Start / Pause / Reset
Leg Timer Duration	24 hours max
Battery	Rechargeable Lithium Ion
Battery Life	300 charges
Operational Life (Fully Charged Battery)	16 hours (Low Brightness)
	12 hours (High Brightness)
Operating Temperature	29°F - 95°F (-2°C - 42°C)
Storage Temperature	-4°F - 140°F (-20°C - 60°C)
Depth Rated	330ft (100m)
Dimensions	2.375" X 2.625" (6.0 X 5.7cm)
Weight in Air	5.4oz (154gm)

TAC-300 SPARES LIST

300-69001	TAC-LITE
300-79000	Carrying Bag
300-79008	Underwater Compass
300-90001	Digital Depth Gauge/Timer Module
103-89001	Battery Charger for DG100
TAC-CHRON	Chronometer

Battery Charging

Open the supplied charging cradle by lifting the cradle top to separate the magnetic latch. Connect charging cradle to the DG100 by placing the DG100 in the charging cradle aligning the contacts on the cradle to contacts on the back of the DG100. Lower the cradle top onto the DG100 until the magnets latch and hold the cradle to the DG100. Plug the USB end of the charging cable into the connector on the supplied power adapter, and plug the power adapter into an AC outlet. The battery health indicator will begin flashing on and off. The DG100 will charge to 90% in 2 to 3 hours and to 100% in 6 hours. Once charged the battery health indicator will stop flashing. Once the unit has completed charging, remove the charging cable from the DG100. After charging, short press the A Button to update the battery health display.

DG100 MAINTENANCE PRECAUTIONS

The DG100 is designed to need very little maintenance to meet its functional requirements. Although it is built for the rigors of underwater use, the DG100 is a precision instrument and should be treated as such. Avoid violent bumps and drops that could affect the pressure transducer and reliability of the gauge. Do not exceed the maximum depth of 330ft (100m) as this may damage the unit.

DG100 MAINTENANCE AND STORAGE

After every use, clean the DG100 - use mild soap and rinse with fresh water. Store in a cool and dry location when not in use. Replace the strap if it becomes frayed or damaged.

TAC300-1 UNDERWATER COMPASS

The TAC300-1 Underwater Compass is designed and manufactured for the rigors of underwater use. The rugged housing is depth compensated and should give you many years of dependable use with proper care. A black compass card with luminous heading markers allows you to maintain a course heading, even in the worst visibility, for up to eight hours.

Illuminating the compass can be achieved by shining a bright light or UV light on the compass card for several minutes. This activates the luminous properties of the card and allows you to visually see the compass at night or in poor visibility conditions for up to eight hours. The longer you expose the card to light, the longer it glows underwater.

PREFACE

PROPERTY

The information, descriptions, photos, and illustrations in this manual are the property of RJE International, Inc. Materials may not be reproduced or disseminated without prior written consent of RJE International, Inc.

WARRANTY

RJE International, Inc. warrants the TAC-300 and associated equipment to be free of defects in material and workmanship for a period of one year from date of delivery to the original purchaser. Obligation under this warranty is limited to repair or, at the sole discretion of RJE International, replacement of any product returned to our facility or authorized distributor. All products shall be shipped to RJE **FREIGHT PREPAID** and shall be returned to customer **FREIGHT COLLECT**. Equipment may not be returned without prior authorization which must be requested in writing. Upon authorization a Case Number will be issued. The Case Number must appear on the outside of the shipment, as well as in all pertaining correspondence. Shipments received without a Case Number will be refused by RJE International. This warranty does not apply in cases where the product malfunctions as a result of mishandling or improper use.

LIABILITY

RJE International, Inc. assumes no liability for damages, losses, or cost incurred consequentially through operation or malfunction of any RJE International, Inc. product.

CHANGES

RJE International, Inc. reserves the right to make changes in design or specifications at any time without any obligation to modify previous units. This manual is provided for information and reference purposes only and is subject to change without notice.
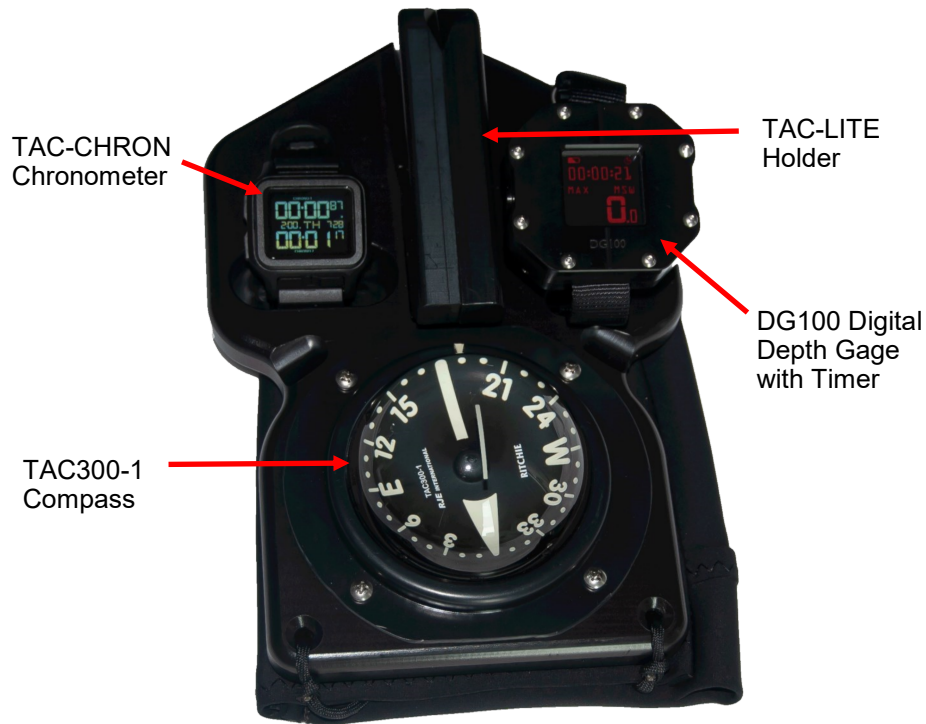
We always welcome our customer's feedback and product improvement ideas. If you have any questions or comments, contact us at:

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INTRODUCTION

The TAC-300 combat swim board was developed for and is used by divers to accurately navigate underwater. Highly reliable and rugged, the TAC-300 consists of four major components: a rugged high impact plastic board, a large underwater compass, a digital depth gauge with timer and a chronometer. The TAC-300 is supplied with a 50-50 cord lanyard with clip and protective sock. The board comes in a padded carrying bag.

The TAC-300 allows the diver to monitor depth, direction and leg time. By using this information, a diver can plot and follow a planned course during a dive with a high level of reliability.

TAC-CHRON Chronometer

TAC-LITE Holder

DG100 Digital Depth Gage with Timer

TAC300-1 Compass

TAC-300 Combat Swim Board

DIVE AND SURFACE TIMER

Once the DG100 is activated underwater, a timer starts to monitor the length of the dive. The DG100 will stop monitoring the length of the dive once the unit is less than 3 ft (1 m) from the surface for more than 1 minute. After 1 minute near the surface, the DG100 starts to monitor the surface time for up to 24 hours. The surface interval time will reset on the next dive, once the unit exceeds a depth of 3 ft (1m).

STOPWATCH MODE

While in "Surface Mode" or "Dive Mode" pressing the A and B Buttons together toggles the unit to "Stopwatch Mode". This mode allows the operator to start, stop, and reset a "Leg Timer" independent of the dive and surface times. Short press the B Button to start and pause the "Leg Timer". Short press the A Button to zero the "Leg Timer". Pressing the A and B Buttons together toggles the unit back to "Surface Mode" or "Dive Mode".

OPERATIONS MENU

The "Operations Menu" allows the user to set brightness, max depth alert and select imperial (feet) or metric (meters) operation. The "Operations Menu" can be accessed only from "Surface Mode" by long pressing the A Button. Short press the A Button to scroll through the menu options and short press the B Button to change the setting. The menu item selected is underlined. Surface brightness can be set to: Low, Med, and High. Max Depth can be set to 0 – 330 feet in 3 foot increments, or 0 – 100 meters in 1 meter increments. While in max depth setting, pressing and holding the B Button allows the user to fast scroll through the values. Meter/Feet can be set to FSW feet of sea water or MSW meters of sea water. Exit Menu returns to "Surface Mode". The bottom of the Operations Menu displays the firmware revision and revision date.

Battery Maintenance

The DG100 comes with a rechargeable Lithium Ion battery that provides up to 16 hours of continuous use. The battery can be charged over 300 times to provide over 4,800 hours of dive time. Upon activation, the battery health indicator (see below) is displayed on the top-left corner of the display. When fully charged, the battery indicator will appear solid red.

| Empty | 25% | 50% | 75% | Full |

BATTERY HEALTH INDICATOR

dive time, the DG100 also tracks leg times. The leg time functions are independent of the dive time. Upon surfacing, the DG100 switches to "Surface Mode" and the surface timer activates. While in "Surface Mode" the DG100 memory can be accessed and allows the diver to recall and display their deepest excursion. When recalling the max depth, the total dive time is also displayed.

- **Display and Controls**

Depth readings are provided to the diver through a large Red OLED display on the bottom of the screen. Both dive and leg times are displayed at the top of the screen. The DG100 buttons supply access to these functions. All functions of the DG100 are controlled through buttons on each side of the display. Buttons are operated in two modes: Short Press or Long Press. Short Press is defined as less than 1 second. Long Press is defined as lasting 2 seconds or more.

DISPLAY STATUS INDICATOR ABBREVIATIONS:
MAX = Maximum Depth
FSW = Feet of Sea Water
MSW = Meters of Sea Water

HIBERNATION MODE
Once the DG100 is on the surface for 1 minute the unit will enter "Hibernation Mode" and shut down. To wake the unit and enter "Surface Mode", short press the A or B Button. While in "Hibernation Mode" the DG100 will enter "Dive Mode" automatically once immersed in water to a depth of approximately 3 feet (1 meter). However, if the DG100 has been in "Hibernation Mode" for more than 24-hours a short press of the A or B Button is required to turn the unit on.

SURFACE MODE
To enter "Surface Mode", short press the A or B Button. While in "Surface Mode" long press the B Button to display the maximum depth and duration of the last dive. You can also toggle to the "Stopwatch Mode" by short pressing the A and B Buttons together.

DIVE MODE
Once activated, the DG100 will display depth and track the length of the dive. While in "Dive Mode" long pressing the B Button will display the maximum depth obtained for 2 seconds. You can also toggle to the "Stopwatch Mode" by short pressing the A and B Buttons together.
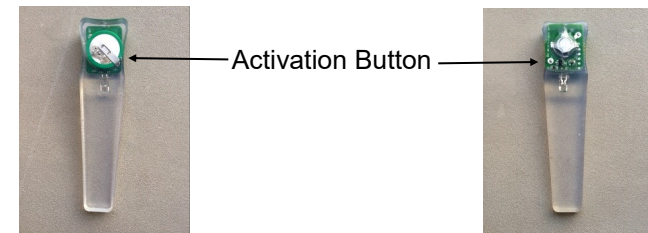
MAX DEPTH INDICATOR
The "MAX" status indicator will illuminate once the DG100 exceeds the programmed maximum depth. The "MAX" indicator will remain on and can only be reset by entering "Dive Mode" from "Surface Mode".
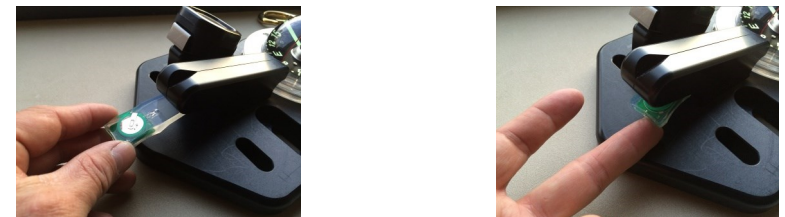
TAC-300 NAVIGATION BOARD
The TAC-300 Navigation Board is a rugged, high impact plastic board that is the base for the board's instruments. The Underwater Compass (p/n TAC300-1), Chronometer (p/n TAC-CHRON) and the DG100 (p/n TAC-300-DG) are mounted onto the board to complete the system. The hardware used to mount the compass is made out of non-corrosive material and will provide you with many years of service.

The TAC-300 board uses a TAC-LITE (p/n TAC-300-2) to illuminate the compass. To activate the TAC-LITE, quickly press and release the button. The TAC-LITE has three positions, OFF, LOW, and HIGH.

Activation Button

To install the TAC-LITE, slide the tapered end into the holder featured below. Ensure the activation button is facing down. This will allow you access to the button. The TAC-LITE operates for up to 120 hours of continuous use. Use a small flat screwdriver to remove the TAC-LITE when needed.
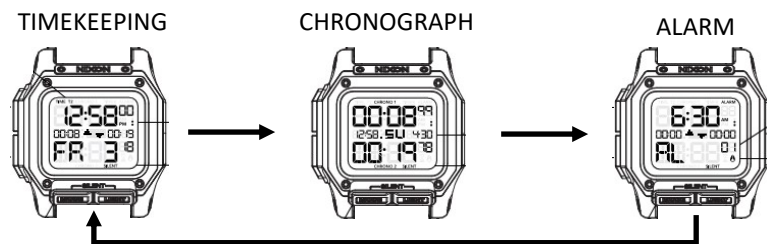

TAC300-1 UNDERWATER COMPASS
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TAC-CHRON Dive Chronometer

The purpose of the TAC-CHRON, used on the TAC-100A navigation board, is to track leg time for navigation and also track the total dive time. The TAC-CHRON is a rugged and reliable dive chronometer with electro-luminescent back lighting.
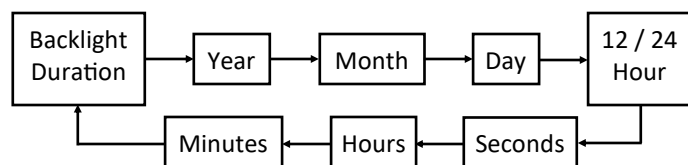
Press C to scroll through different modes.

A — BACKLIGHT LEVEL
— CHRONOGRAPHS
B — SILENT MODE

TIMEKEEPING → CHRONOGRAPH → ALARM

• Setting Time and Date

While in timekeeping mode press and hold C, LED backlight duration time will begin to blink. Press A to increment the value & B to decrement the value.
Press C in timekeeping mode to scroll through all the settable values.

Backlight Duration → Year → Month → Day → 12 / 24 Hour
Minutes ← Hours ← Seconds ←

Press A to increment and B to decrement the value. Press and hold C to confirm and exit setting mode. (Will time out after 30 seconds).
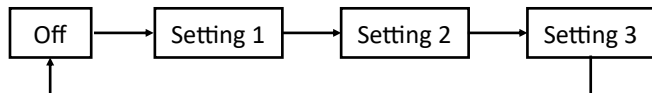
• Timekeeping Mode

Press A to start / stop chronograph 1; when stopped press and hold to reset.
Press B to start / stop chronograph 2; when stopped press and hold to reset.

• Light

Press D to illuminate backlight.
Press and hold D to enter brightness setting.

Off → Setting 1 → Setting 2 → Setting 3

Press D to scroll through brightness settings.
Press and hold D to exit setting mode.(Will time out after 5 seconds).

• Silent

Press and hold C and D together, to toggle silent mode on / off.
In silent mode alarms will not sound.
Light and Silent settings can be updated from any mode.

• Chronograph Mode

Press A to start / stop chronograph 1; when stopped press and hold to reset.
Press B to start / stop chronograph 2; when stopped press and hold to reset.

• Alarm Mode

Press A to toggle on / off the alarm that is currently displayed; Nixon icon in lower right indicates alarm is on.
Press B to scroll through the 3 alarms.
Press and hold C to enter alarm setting state, hours will began to blink.
Press A to increment the value and B to decrement the value.
Press C to toggle between setting hours and minutes.
Press and hold C to confirm and exit settings mode. (Will time out after 30 seconds).

DG100 Digital Depth Gauge and Timer

The DG100 is a digital depth gauge that measures and displays depth accurately from 0 to 330ft (0-100m). Using a state-of-the-art pressure transducer the DG100 depth resolution is 0.1ft (0.1m).

The DG100 also tracks dive time automatically once activated, and will store the total dive time upon surfacing. In addition to tracking the total

Stop Watch Indicator (Leg Timer)
Battery Health
Leg Dive Surface Timer
Metric / Imperial Indicator
A Button →
← B Button
Max Depth Warning
Depth Display