

eRDPTM ML



Multilevel Recreational Dive Planner

Instructions for Use
and Study **Guide**



PADI
padi.com

Distributed by PADI



The **eRDPTM**
ML

Electronic Dive Planner

Instructions for Use
and **Study Guide**

Distributed by PADI

CAUTION

Do not attempt to use this product without first reading the Instructions for Use. This product is intended for use only by certified divers or individuals under the supervision of a certified scuba instructor. This product may only be used in conjunction with the accompanying General Rules for Use. Misuse of this product may result in serious injury or death. If you are unsure as to how to properly use this product, consult a certified scuba instructor.

Note: Because people differ in their susceptibility to decompression sickness, no decompression table can guarantee that decompression sickness will never occur even though you dive within the table limits.

WARRANTY

No warranty concerning the use of this product or the information contained on this product is expressed or implied. In no event shall Diving Science And Technology Corporation or PADI Americas, Inc. be liable or responsible for any special, incidental or consequential damages with respect to this product.

PRODUCT REPLACEMENT GUARANTEE

To our customer: It is important to us that you be entirely satisfied with this product. If for some reason this product does not function properly, return it with proof of purchase to seller within 30 days for a replacement.

Diving Science And Technology (DSAT®) is a corporate affiliate of PADI Americas, Inc. and was founded specifically to carry out scientific research and technical projects within the scope of recreational diving.



This icon alerts you to important, safety related information.

Product No. 01187 (8/08) Version 1.01

© 1985 - 2008 Diving Science And Technology Corp.
All rights reserved. No part of this booklet may be reproduced
in any form without written permission of the publisher.

Printed in China

Table of Contents

Section One

Using the eRD _{PM} L	6
Function Keys.	7
Batteries	10
Turning the Unit On and Off	10
Setting Metric or Imperial Units	11
General Precautions	13
General Rules for Using the eRD _{PM} L	14

Section Two

Finding Your No Decompression Limit	21
Finding Your Pressure Group After a Dive	25
Finding Your New Pressure Group After a Surface Interval.	30
Drawing the Dive Profile	35
Finding Your Adjusted No Decompression Limit for a Repetitive Dive	40
Using the Dive Planning Mode Mid-Profile	45
Making Multiple Repetitive Dives	52

Section Three

Finding a Minimum Surface Interval . 62

Finding a Maximum Depth 74

Section Four

Planning Multilevel Dives 86

Section Five

Reminders and Suggestions 106

Dive Tables Definitions Review . . . 108

Section 1

Using the eRDP_{ML}

The eRDP_{ML} is the second generation of the eRDP, which was the world's first electronic dive table. Like its predecessor, the eRDP_{ML} is a version of the world's most popular dive table, the Recreational Dive Planner (RDP). Since its introduction in 1988, in its versions of the Table and The Wheel[®], the RDP has been used by millions of recreational divers. The maximum dive times, pressure groups and other information provided by the eRDP_{ML} are the same as that provided by the conventional RDP Table and The Wheel[®] versions of the RDP. The eRDP_{ML} simply uses electronics to make planning dives,

including multilevel dives simpler and more convenient.

The purpose of all versions of the Recreational Dive Planner is to make all dives no stop (no decompression) dives. Proper planning assures that each dive, single or repetitive, is within the no decompression limits by controlling the length of the dive, the depth(s) of the dive, and the surface interval between dives.

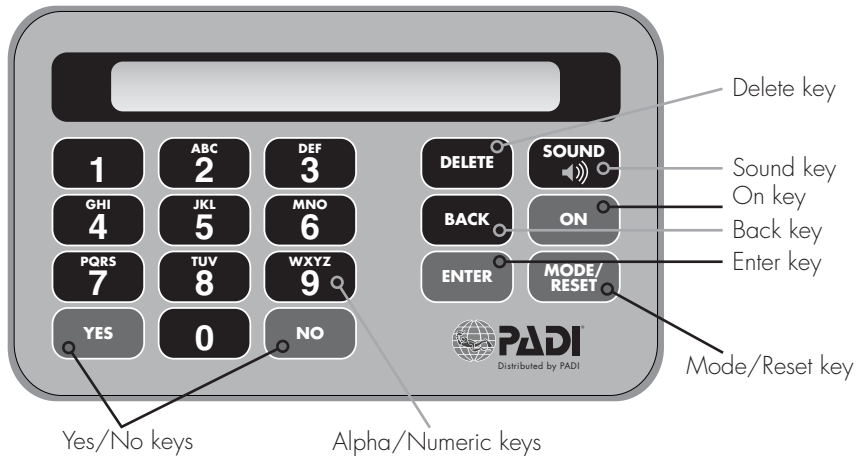
Use of the Recreational Dive Planner requires having and using an accurate depth gauge, an underwater timer, a slate and pencil and the eRDP_{ML} itself. You need to know the depth and/or depth levels of each dive so you can

determine the maximum time allowed, or you must limit your depth to a specific planned maximum depth.

Function Keys

The eRDPM_L is a specialized calculator that allows you to enter dive times, dive depths and surface intervals so you can determine the maximum allowable dive time for single, repetitive, and multilevel dives. Like any calculator, it has function keys with which you need to be familiar when using it.

Section 1



Front

Alpha/Numeric keys

Use to enter numbers and letters.

Mode/Reset key

Use to select the eRDP_{ML} Dive Planning, Surface Interval, Maximum Depth, and Multilevel Modes.

Press and hold for 2 seconds to reset the eRDP_{ML}.

Yes/No keys

Use to answer Yes/No questions.

On key

Use to turn on the eRDP_{ML}.

Enter key

Enters data after entering with Alpha/Numeric keys.

Delete key

Deletes digits/letters before pressing Enter key.

Back key

Takes you back to previous step (not possible in all modes).

Sound key

Activates optional key sounds and audible warnings. (The sounds are off unless you activate them.)

Section 1

General Rules for Using the eRDPM_L (inside the Flip Cover)

Follow the rules written on the inside of the flip cover when using the eRDPM_L. The eRDPM_L will prompt you to check some of these rules based on the dive information you enter. **Note: The General Rules for Use must be followed when using the eRDPM_L. Not all rules are indicated by a prompt.**

Batteries

The eRDPM_L runs on one 3.0V, CR2032 Lithium battery. Typical battery life is one year with an average use of 10 minutes per day. If the display dims, it indicates that you should replace the batteries in the compartment on the back of the eRDPM_L.

Lithium Battery Warning

WARNING Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and local disposal requirements. Keep away from children.

Turning the Unit On and Off

To turn the eRDPM_L on, press and hold the On key for 2 seconds. To turn it off, press and hold the On key for 2 seconds. If you leave the eRDPM_L on for more than 5 minutes without entering information, it will power itself down.

Upon power up, the eRDPM_L enters

diagnostic mode and counts down from 9 to 0. If there is a problem, the unit shuts down automatically. Otherwise, it displays UNIT METRIC or UNIT IMPERIAL to confirm the metric or imperial system setting, then prompts you to SELECT MODE, which you choose for the planning information you need (more about this shortly).

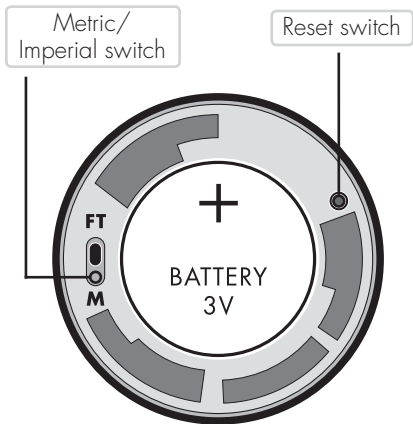
A rectangular display with a black border and a light gray background, showing the text "UNIT IMPERIAL" in a black, monospaced, all-caps font.A rectangular display with a black border and a light gray background, showing the text "SELECT MODE" in a black, monospaced, all-caps font.

Setting Metric or Imperial Units

You can use the eRDPM_L with either the metric (metres) or imperial (feet) system.

To change from metric to imperial or vice versa, open the battery compartment cover using a coin about the same thickness as the slot in the cover. Use only such a coin. Using a screwdriver or other tool may damage the cover slot. On the rim of the battery compartment is the metric/imperial switch and the reset switch (see figure below). Using the point of a pen or pencil, carefully move the metric/imperial switch to the appropriate position to change from metric to imperial or vice versa and then push the reset switch. After replacing the battery compartment cover, turn on the eRDPM_L by pressing and holding the On key for 2 seconds.

Section 1



Note: The imperial and metric units are not exact equivalents on the metric and imperial versions of the RDP Table or The Wheel®. This is because the metric and imperial RDPs were calculated from the underlying decompression model independently to make them more precise and usable for divers using the respective systems. *For this reason, metric and imperial examples in this guide are similar, but not identical.*

General Precautions



1. The eRDP_{ML} is an electronic dive table, not a dive computer. Although it resists moisture, it is not submersible. **Taking the eRDP_{ML} underwater will destroy it.** Use the eRDP_{ML} for pre-dive planning and write your plan (maximum depth, allowable dive time) on a slate to take with you on the dive.
2. Handle the eRDP_{ML} with care to protect it. Impact, shock or crushing can damage or destroy the eRDP_{ML}, just as they can any electronic instrument.
3. Although manufactured from solid state, reliable electronic components, like other electronic devices (including dive computers) the eRDP_{ML} can fail without warning due to battery exhaustion, damage or other cause. **Keep a written record of your dive profile, pressure groups and other information to allow you to use a conventional dive table or a buddy's eRDP_{ML} to determine your allowable dive times should your eRDP_{ML} fail.**
4. **If your eRDP_{ML} fails and you have no other record of your depths, times, surface intervals and other dive**

Section 1

profile information, do not dive for at least 12 hours. This allows theoretical nitrogen levels to return to normal, at which time you may resume diving using another eRDP_{ML}, the RDP Table, The Wheel[®] or a dive computer.

General Rules for Using the eRDP_{ML}

The following rules apply to using the eRDP_{ML} and other versions of the RDP (eRDP, Table or The Wheel[®]). The eRDP_{ML} will prompt you to recall some of these rules by displaying a message and emitting 3 short beeps if sound is on. Note that you can turn off the beeps by deactivating sound.

For your convenience, these rules appear inside the eRDP_{ML}'s flip cover. You'll learn more about these rules and when they apply.



Follow The General Rules for Using the eRDP_{ML} when planning dives with the eRDP_{ML}.



1. The Recreational Dive Planner is designed specifically for planning recreational (no decompression) dives on air only. Do not attempt to use it for planning decompression dives or dives using breathing gases other than air.
2. **Safety Stops** – A safety stop for 3 minutes at 5 metres/15 feet is required any time the diver comes within 3 pressure groups of a no decompression limit, and for any dive to a depth of 30 metres/100 feet or greater. A safety stop is recommended at the end of all dives whenever possible, regardless of depth or duration.

The eRD_{ML} provides prompts for this rule, however, ALL General Rules apply when using the eRD_{ML}.

3. **Emergency Decompression** – If a no decompression limit is exceeded by no more than 5 minutes, an 8-minute decompression stop at 5 metres/15 feet is mandatory. Upon surfacing, the diver must remain out of the water for at least 6 hours prior to making another dive. If a no decompression limit is exceeded by more than 5 minutes, a 5 metres/15 feet decompression stop of no less than 15 minutes is urged (air supply permitting). Upon surfacing, the

Section 1

diver must remain out of the water for at least 24 hours prior to making another dive.

4. *Flying after Diving Recommendations*

For Dives within the No Decompression Limits


Single Dives: A minimum preflight surface interval of 12 hours is suggested.

Repetitive Dives and/or Multiday Dives: A minimum preflight surface interval of 18 hours is suggested.

For Dives Requiring Decompression Stops

A minimum preflight surface interval of greater than 18 hours is suggested.

5. ***Diving at Altitude*** – Diving at Altitude (300 metres/1000 feet or greater) requires the use of special training and procedures.

6. ***Special Rules for Multiple Dives*** –
 If you are planning 3 or more dives in a day: Beginning with the first dive, if your ending pressure group after any dive is W or X, the minimum surface interval between all subsequent dives

is 1 hour. If your ending pressure group after any dive is Y or Z, the minimum surface interval between all subsequent dives is 3 hours.

Note: Since little is known about the physiological effects of multiple dives over multiple days, divers are wise to make fewer dives and limit their exposure toward the end of a multi-day dive series.

7. Ascend from all dives at a rate not to exceed 18 metres/60 feet per minute. Slower is acceptable and encouraged. Be a S.A.F.E. Diver — Slowly Ascend From Every Dive.
8. When planning a dive in cold water or under conditions that might be strenuous, plan the dive assuming the depth is 4 metres/10 feet deeper than actual.
9. Plan repetitive dives so each successive dive is to a shallower depth. Limit repetitive dives to 30 metres/100 feet or shallower. Avoid following a dive with a deeper dive. Always plan your deepest dive first.
10. Do not dive below 40 metres/130 feet. As an emergency procedure, if you discover you have accidentally descended below 40 metres/130 feet, immediately ascend (at a rate

Section 1

not to exceed 18 metres/60 feet per minute) to 5 metres/15 feet and make an emergency decompression stop for 8 minutes. Any dive below 40 metres/130 feet must be followed by a surface interval of at least 6 hours.

11. When the eRDP_{ML} reads "NEW DIVE" and "SEE RULE 11", your residual nitrogen levels are so low that you may plan your next dive as a first dive. The WX and YZ rules for minimum surface intervals when making more than 3 dives in a day still apply.

Guidelines for Using the eRDP_{ML}

In addition to the General Rules, apply the following guidelines and definitions when using the eRDP_{ML}.

1. Bottom time is the total time in minutes from the beginning of descent until the beginning of final ascent to the surface or safety stop.
2. Plan any dive to 10 metres/35 feet or less as a dive to 10 metres/35 feet. (The eRDP_{ML} does this automatically when you enter a depth.)

3. Always be conservative and avoid using the maximum limits provided when making your dives. Plan your dives well within the limits.
4. Limit your maximum depth to your training and experience level. As an Open Water Diver, limit your dives to a maximum depth of 18 metres/60 feet. Divers with greater training or experience should generally limit themselves to 30 metres/100 feet. Divers with Deep Diver training and a reasonable objective may dive as deep as 40 metres/130 feet. All dives should be planned as no decompression dives and no dive should exceed the maximum depth limit for recreational scuba — 40 metres/130 feet. Decompression diving is beyond the parameters of the Recreational Dive Planner. (The eRDP_{ML} will not let you enter depths beyond these limits.)
5. Always consult the eRDP_{ML} before each dive to be sure you know your no decompression limit. Note the time on an underwater slate and carry it with you, and also note the no decompression limit (NDL) for a deeper depth, in case you accidentally exceed your depth limit. Using the eRDP_{ML} set for metric, use

Section 1

a depth 2 metres deeper than the planned depth if the planned depth is 22 metres or shallower. Use a depth 5 metres deeper than the planned depth if the planned depth is deeper than 25 metres. Using the eRDP_ML set for imperial, use a depth 10 feet deeper than the planned depth in all cases.

There are a few additional rules that apply to multilevel diving that you will learn about in Section Four.

Section Two

In this section, you'll learn to use the eRDP_{ML} for planning single depth dives. This means your no decompression limits on your first and subsequent dives will be determined as if you will stay at the deepest depth of the dive for the entire dive time. You will learn about multilevel diving, which extends your allowable dive time by crediting you for slower nitrogen absorption at shallower levels, in Section Four.

Finding Your No Decompression Limit

When you begin planning your first dive of the day, you need to determine your no decompression limit (NDL). The NDL is the maximum amount of time you may spend at a given depth and still make a direct ascent to the surface (although you should make a safety stop whenever possible). The deeper your planned depth, the shorter your NDL. To find your NDL, you will use the eRDP_{ML} Dive Planning Mode. You will use this mode to get the majority of the information you need from the eRDP_{ML}.

Section 2

If you're only planning to make 1 dive within a 6 hour period, you will only need to know the maximum depth for the dive. When using the eRDP_{ML}, for the purposes of calculation, use the deepest depth you plan to reach during the dive, regardless of how long you actually remain at that depth.

To find your NDL for a given depth:

1. Turn on the eRDP_{ML}. It will read SELECT MODE.

SELECT MODE

2. Press the Mode/Reset key until the display reads DIVE PLANNING.

DIVE PLANNING

3. Press the Enter key to select Dive Planning Mode.
4. The eRDP_{ML} prompts you to indicate whether you're making a multilevel dive with MULTILEVEL Y/N. Press the No key to indicate a single depth dive.

MULTILEVEL Y/N

5. The eRDP_{ML} prompts you to indicate whether you're making your first dive or a repetitive dive with FIRST DIVE Y/N. Press the Yes key to indicate that this is your first dive.

FIRST DIVE Y/N

6. Enter the planned maximum depth of the dive with the Alpha/Numeric keys at the ENTER DEPTH display (the eRDP_{ML} shows M for metres, FT for feet) and then press the Enter key.

7. The eRDP_{ML} displays the no decompression limit (NDL) for that depth. Your actual dive time may not exceed this limit at that depth.

NDL 20 MIN

Section 2

Example (Metric)

Assume you plan to dive on a reef you know lies in 15 metres of water. How long can you stay at 15 metres?

1. At SELECT MODE, press the Mode/Reset key to select the Dive Planning Mode and press Enter.
2. Press the No key when eRDP_{ML} displays MULTILEVEL Y/N.
3. Press the Yes key when the eRDP_{ML} displays FIRST DIVE Y/N.
4. Put in 15 with the Alpha/Numeric keys and press Enter.

5. The eRDP_{ML} shows your no decompression limit (NDL) is 72 minutes.



Example (Imperial)

Assume you plan to dive on a reef you know lies in 45 feet of water. How long can you stay at 45 feet?

1. At SELECT MODE, press the Mode/Reset key to select the Dive Planning Mode and press Enter.
2. Press the No key when eRDP_{ML} displays MULTILEVEL Y/N.

3. Press the Yes key when the eRDPM_L displays FIRST DIVE Y/N.
4. Put in 45 with the Alpha/Numeric keys and press Enter.
5. The eRDPM_L shows your no decompression limit (NDL) is 100 minutes.



NDL 100 MIN

Finding Your Pressure Group After a Dive

Although you need only your NDL if you're planning only one dive, you need more information when planning

more than one dive. You must account for the nitrogen you absorb on the first dive when planning your next dive. The nitrogen left in your body tissues after the first dive is called residual nitrogen. The eRDPM_L represents the amount of residual nitrogen you have in your body after the dive as a pressure group (PG) letter. PG letters closer to A represent lower residual nitrogen levels, and PG letters closer to Z represent higher residual nitrogen levels. To find your residual nitrogen PG, you will continue in the Dive Planning Mode.

1. After the dive, repeat the steps for finding your no decompression limits using the actual maximum depth of the dive.

Section 2

- After the eRDPM_L shows your no decompression limit (NDL) for the depth, press Enter. The eRDPM_L prompts you to enter your Actual Bottom Time (ABT) in minutes. This is the time you *actually spent* on your dive.

ENTER ABT MIN

- Enter the time in minutes using the Alpha/Numeric keys and press Enter.
- The eRDPM_L shows PG AFTER DIVE ---. This is the pressure group letter than corresponds to the theoretical residual nitrogen level in your body.

PG AFTER DIVE G

Example (Metric)

Continuing with the previous example, assume you remained at 15 metres for 40 of the allowable 72 minutes.

- Select Dive Planning Mode and press Enter. Press No at the MULTILEVEL Y/N prompt and press Yes at the FIRST DIVE Y/N prompt.
- Put in 15 metres and press Enter at the ENTER DEPTH prompt. Press Enter again after the eRDPM_L reads 72 MIN.

- Put in 40 at the ENTER ABT MIN prompt and press Enter.

ENTER ABT 40 MIN

- The eRDP_{ML} shows your pressure group after a 40 minute dive to 15 metres is N.

PG AFTER DIVE N

Example (Imperial)

Continuing with the previous example, assume you remained at 45 feet for 42 of the allowable 100 minutes.

- Select Dive Planning Mode and press Enter. Press No at the MULTILEVEL Y/N prompt and press Yes at FIRST DIVE Y/N prompt.
- Put in 45 feet and press Enter at the ENTER DEPTH prompt. Press Enter again after the eRDP_{ML} reads 100 MIN.
- Put in 42 at the ENTER ABT MIN prompt and press Enter.

ENTER ABT 42 MIN

- The eRDP_{ML} shows your pressure group after a 42 minute dive to 45 feet is L.

Section 2

PG AFTER DIVE L

You will use the pressure group letter the eRDP_{ML} gives you when planning a repetitive dive. A repetitive dive is any dive made while there's still a significant amount of residual nitrogen in your body. Using the RDP, this generally means a dive made within 6 hours of a previous dive.

Check Your Learning

1. A no decompression limit is:
 - a. the maximum allowable dive time for a dive to a specified depth.
 - b. the maximum depth limit you can reach as a recreational diver.
2. Residual nitrogen is:
 - a. the more-than normal amount of nitrogen left in your tissues after a dive.
 - b. the excess nitrogen that bubbles to cause decompression sickness.

3. A pressure group is:
- a letter that indicates how deep you went on the last dive.
 - a letter that represents the amount of residual nitrogen in your body after a dive.

How did you do?

1. a 2. a 3. b

Practice

Finding Your Pressure Group After a Dive

Use the eRDP_{ML} to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

- A dive to 13 metres for 60 minutes yields what pressure group?
- A dive to 9 metres for 70 minutes yields what pressure group?

Answers: Metric 1. Pressure group Q. Metric 2. Pressure group M.

Section 2

3. A dive to 18 metres for 40 minutes yields what pressure group?

Imperial

1. A dive to 43 feet for 60 minutes yields what pressure group?
2. A dive to 28 feet for 70 minutes yields what pressure group?
3. A dive to 60 feet for 40 minutes yields what pressure group?

Finding Your New Pressure Group After a Surface Interval

As time goes by after a dive, residual nitrogen leaves your body. You use the $eRDP_{ML}$ to determine how much residual nitrogen your body eliminates during a surface interval — that is, the time on the surface between 2 dives. The $eRDP_{ML}$ calculates this residual nitrogen reduction by assigning a new pressure group based upon how long you remain at the surface between dives.

Answers: Metric 3. Pressure group P. Imperial 1. Pressure group Q.
2. Pressure group N. 3. Pressure group Q.

To determine your new pressure group after a surface interval, continue with the Dive Planning Mode sequence you used to find your PG after a dive.

1. With the eRDP_{ML} showing PG AFTER DIVE —, press Enter.
2. The eRDP_{ML} prompts ENTER SI 00H:00M for hours:minutes.



ENTER SI 00H:00M

3. Enter the time with the Alpha/ Numeric keys and press Enter. Unlike your dive times, which you enter as minutes, you enter surface intervals as hours and minutes. For example,

you would enter a 65 minute surface interval as 1,0,5 (one hour, five minutes). If you forget and enter a number greater than 60, the eRDP_{ML} will display:



ENTER HR:MIN

If this happens, press Enter again and put in the time using the hours and minutes format.

4. The eRDP_{ML} displays PG AFTER SI —. This is your new pressure group following the surface interval.



PG AFTER SI 0

Section 2

Example (Metric)

Continuing with the previous example, your 15 metre dive for 40 minutes yielded pressure group N. After 1 hour, what is your new pressure group?

1. At PG AFTER DIVE N, press Enter. The eRDPM_L prompts you to enter the surface interval.
2. With the Alpha/Numeric keys, put in 1, 0, 0 for 1:00 (one hour and no minutes).



ENTER SI 01H:00M

3. Press Enter. The eRDPM_L shows PG AFTER SI D, meaning that your new

pressure group after the one hour surface interval is D.



PG AFTER SI D

Example (Imperial)

Continuing with the previous example, your 45 foot dive for 42 minutes yielded pressure group L. After 1 hour, what is your new pressure group?

1. At PG AFTER DIVE L, press Enter. The eRDPM_L prompts you to enter the surface interval.
2. With the Alpha/Numeric keys, put in 1, 0, 0 for 1:00 (one hour and no minutes).

3. Press Enter. The eRDP_{ML} shows PG AFTER SI C, meaning that your new pressure group after the one hour surface interval is C.

PG AFTER SI C

Check Your Learning

1. A surface interval :
 - a. must be longer than 12 hours.
 - b. is the time spent on the surface between dives.

How did you do?

1. b.

Practice

Finding Your New Pressure Group After a Surface Interval

Use the eRDP_{ML} to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

1. You make a dive to 17 metres for 27 minutes. After a 32 minute surface interval, what is your new pressure group?

Answer: Metric 1. Pressure group E.

Section 2

- | | |
|---|---|
| <p>2. You dive to 14 metres for 57 minutes. What pressure group will you be in after a 55 minute surface interval?</p> <p>3. What will be your pressure group after a dive to 19 metres for 22 minutes and a 4 hour surface interval?</p> | <p>2. You dive to 50 feet for 50 minutes. What pressure group will you be in after a 55 minute surface interval?</p> <p>3. What will be your pressure group after a dive to 66 feet for 20 minutes and a 4 hour surface interval?</p> |
|---|---|

Imperial

1. You make a dive to 58 feet for 27 minutes. After a 32 minute surface interval, what is your new pressure group?

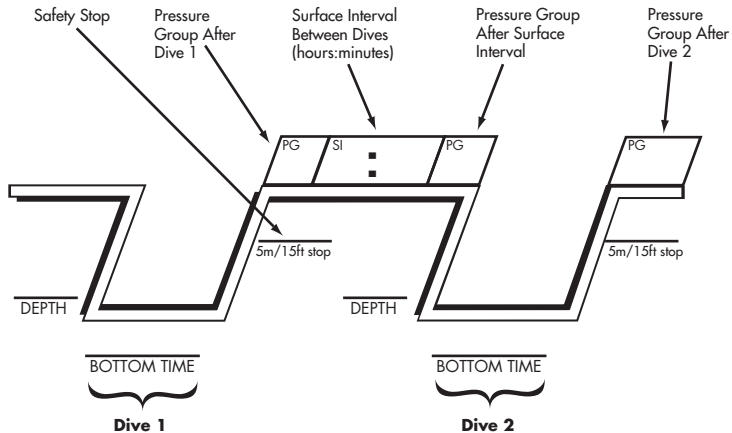
*Answers: Metric 2. Pressure group F. 3. Pressure group A.
Imperial 1. Pressure group E. 2. Pressure group F. 3. Pressure group A.*

Drawing the Dive Profile

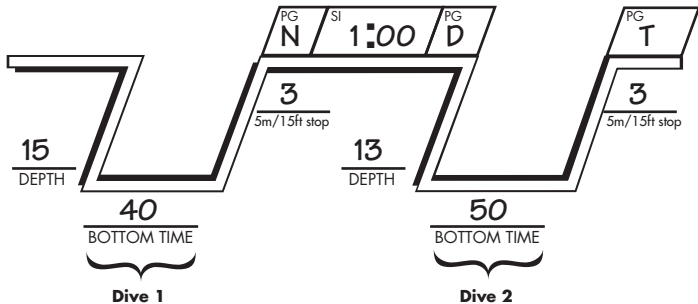
One way you can avoid confusion and make sure you don't miss any steps when using the eRDP_{ML} is to track your dive graphically by drawing it on a slate or paper. This is called a *dive profile*.

Notice that there's a blank space for each piece of critical information. Some of this information you give the eRDP_{ML}, such as dive times and depths, and surface intervals. Other information the eRDP_{ML} gives to you, such as pressure groups. If you leave a blank space in the dive profile, then you've forgotten to record an important piece of information.

Section 2

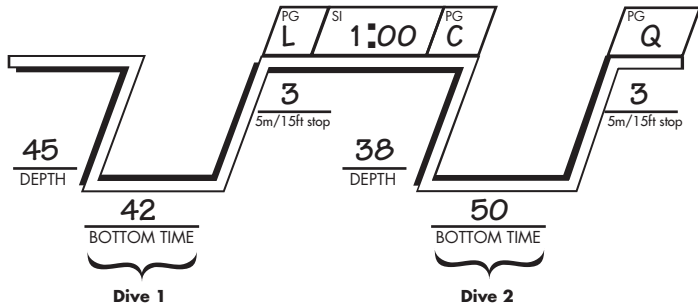


Metric Samples



Section 2

Imperial Samples



When making more than one dive, you will typically use the eRDPM_L after each dive and/or after surface intervals to plan repetitive dives. Because the eRDPM_L doesn't remember previous dives after you turn it off or reset the mode, you need to write this information down so you can enter it again later.

As you'll learn shortly, the eRDPM_L allows you to enter Dive Planning Mode mid-profile, at any place you have a pressure group. This is handy when making several dives so you don't have to enter all the dives and surface intervals from the beginning. To do this, though, you need to write down your pressure groups after each dive and surface interval.

Check Your Learning

1. A dive profile is a:
 - a. method of calculating your bottom time.
 - b. graphic representation of a dive.

How did you do?

1. b.

Section 2

Finding Your Adjusted No Decompression Limit for a Repetitive Dive

After a surface interval, the residual nitrogen in your body has declined, but hasn't returned to normal. Therefore, when you make a repetitive dive it's necessary to account for the residual nitrogen by shortening your no decompression limit (NDL). This is called an *adjusted no decompression limit* (ANDL). It has been adjusted (shortened) to account for residual nitrogen. Besides the ANDL, it's also necessary to account for residual nitrogen when determining your PG after the repetitive dive.

To account for residual nitrogen, the RDP converts your pressure group into residual nitrogen time. Residual nitrogen time is simply the amount of residual nitrogen, expressed in minutes, that you have remaining in your body when you begin a repetitive dive. If you were using the RDP Table, you would determine this time and use it several ways for planning subsequent dives. The eRDP_{ML} does this for you automatically, adjusting allowable maximum times and PGs for repetitive dives.

To determine your ANDL for a repetitive dive, continue in Dive Planning Mode from the PG AFTER SI -- prompt.

1. With the eRDP_{ML} showing PG AFTER SI --, press Enter.
2. The eRDP_{ML} prompts you to enter the repetitive dive depth.

ENTER DEPTH

3. Put in the depth with the Alpha/Numeric keys and press Enter.
4. The eRDP_{ML} displays ANDL -- MIN. This is your no decompression limit, adjusted for the residual nitrogen from previous dives. For a given depth, your ANDL after a dive will always be shorter than the NDL for your first dive.

ANDL 121 MIN

Example (Metric)

Continuing with the previous example, your 15 metre dive for 40 minutes yielded pressure group N. After one hour, the new pressure group was D. Now you want to plan a repetitive dive to 13 metres. What is your adjusted no decompression limit (ANDL)?

1. At PG AFTER SI D, press Enter. The eRDP_{ML} prompts you to enter the depth of the repetitive dive.
2. With the Alpha/Numeric keys, put in 13.

Section 2

ENTER DEPTH 13

3. Press Enter. The eRDP_{ML} shows ANDL 76 MIN, meaning that your adjusted no decompression limit (the maximum allowable bottom time for your repetitive dive) is 76 minutes.

ANDL 76 MIN

Example (Imperial)

Continuing with the previous example, your 45 foot dive for 42 minutes yielded pressure group L. After one hour, the new pressure group was C. Now you want to

plan a repetitive dive to 38 feet. What is your adjusted no decompression limit (ANDL)?

1. At PG AFTER SI C, press Enter. The eRDP_{ML} prompts you to enter the depth of the repetitive dive.
2. With the Alpha/Numeric keys, put in 38.

ENTER DEPTH 38

FT

3. Press Enter. The eRDP_{ML} shows ANDL 118 MIN, meaning that your adjusted no decompression limit (maximum allowable bottom time for your repetitive dive) is 118 minutes.

ANDL 118 MIN

Check Your Learning

- Residual nitrogen time is:
 - the amount of residual nitrogen found in your body before you make your first dive of the day.
 - the amount of residual nitrogen, expressed in minutes, you have remaining in your body prior to entering the water for a repetitive dive.
- An adjusted no decompression limit is:
 - the maximum amount of time you can spend at a specific depth on a repetitive dive.
 - the shorter-than-normal no decompression limits you must follow until you become an experienced diver.

How did you do?

1. b. 2. a.

Practice

Find Your Adjusted No Decompression Limit (ANDL) for a Repetitive Dive

Use the eRDP_{ML} to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Section 2

Metric

1. You make a dive to 18 metres for 40 minutes. After a 25 minute surface interval, you plan to return to 18 metres. What is your adjusted no decompression limit?
2. You make a dive to 16 metres for 60 minutes. After a 15 minute surface interval, you plan to return to 16 metres. What is your adjusted no decompression limit?

3. You make a dive to 20 metres for 41 minutes. After a 25 minute surface interval, you plan to dive to 17 metres. What is your adjusted no decompression limit?

Imperial

1. You make a dive to 60 feet for 40 minutes. After a 28 minute surface interval, you plan to return to 60 feet. What is your adjusted no decompression limit?

Answers: Metric 1. 26 minutes. 2. 24 minutes. 3. 22 minutes. **Note:** With this profile, the eRDPM should prompt you to consult the rules on the Rules for Use Slate.

Imperial 1. 26 minutes.

2. You make a dive to 50 feet for 63 minutes. After a 15 minute surface interval, you plan to return to 50 feet. What is your adjusted no decompression limit?
3. You make a dive to 70 feet for 38 minutes. After a 25 minute surface interval, you plan to dive to 58 feet. What is your adjusted no decompression limit?

Using the Dive Planning Mode Mid-Profile

When you first power up the eRDPM_L to plan a repetitive dive, provided you've been writing down your dive profile with the pressure groups, you don't need to enter all the dives and surface intervals from the beginning. The eRDPM_L allows you to go into the Dive Planning Mode from mid-profile with a known pressure group. You can do this with your new pressure group after a surface interval or with your pressure group after a dive.

Answers: Imperial 2. 30 minutes. 3. 22 minutes. **Note:** With this profile, the eRDPM_L should prompt you to consult the rules on the Rules for Use Slate.

Section 2

To begin dive planning with your new pressure group following a surface interval:

1. Turn on the eRDP_{ML} and select the Dive Planning Mode.
2. At the MULTILEVEL Y/N prompt, press the Yes or No key depending upon whether you will be planning a multilevel dive. Since this hasn't been covered yet, the examples and practice questions here will be single depth dives.
3. At the FIRST DIVE Y/N prompt, press the No key.
4. The eRDP_{ML} displays PG AFTER SI Y/N. Press the Yes key.

PG AFTER SI Y/N

5. The eRDP_{ML} prompts PG START DIVE. This is your new pressure group from after your surface interval on your dive profile with which you will start the repetitive dive.
6. Use the Alpha/Numeric keys to put in your PG letter. Press the key to scroll to the desired letter, then press Enter. (To enter L, for example, you would press the JKL key three times, then press Enter.)

PG START DIVE

7. The eRDP_{ML} then prompts you to enter the depth of the repetitive dive as you have before. You continue planning from here as you've already learned, or for a multilevel dive, as you will learn in Section Four.

Example (Metric)

After a dive and a surface interval, according to your dive profile you're in pressure group C. What is your adjusted no decompression limit for a dive to 13 metres?

1. Select the Dive Planning Mode and press No at the MULTILEVEL Y/N prompt and No at the FIRST DIVE Y/N prompt.

2. At the PG AFTER SI Y/N prompt, press Yes.
3. At PG START DIVE, press the ABC key 3 times to scroll to C.



PG START DIVE C

4. Press Enter. Use the Alpha/Numeric keys to put in 13 at the ENTER DEPTH prompt.



ENTER DEPTH 13

5. The eRDP_{ML} shows your adjusted no decompression limit (ANDL) of 79 minutes.

Section 2

ANDL 79 MIN

Example (Imperial)

After a dive and a surface interval, according to your dive profile you're in pressure group C. What is your adjusted no decompression limit for a dive to 38 feet?

1. Select the Dive Planning Mode and press No at the MULTILEVEL Y/N prompt and No at the FIRST DIVE Y/N prompt.
2. At the PG AFTER SI Y/N prompt, press Yes.

3. At PG START DIVE, press the ABC key 3 times to scroll to C.

PG START DIVE C

4. Press Enter. Use the Alpha/Numeric keys to put in 38 at the ENTER DEPTH prompt.

ENTER DEPTH 38 FT

5. Press Enter. The eRDP_ML shows your adjusted no decompression limit (ANDL) of 118 minutes.

ANDL 118 MIN

To begin dive planning with a pressure group following a dive:

1. Turn on the eRDP_{ML} and select the Dive Planning Mode.
2. At the MULTILEVEL Y/N prompt, press the Yes or No key depending upon whether you will be planning a multilevel dive. Since this hasn't been covered yet, the examples and practice questions here will be single depth dives.
3. At the FIRST DIVE Y/N prompt, press the No key.
4. The eRDP_{ML} displays PG AFTER SI Y/N Press the No key.

PG AFTER SI Y/N

5. The eRDP_{ML} prompts PG BEFORE SI. This is the pressure group you had upon surfacing from the dive, before your surface interval.

PG BEFORE SI

6. Use the Alpha/Numeric keys to put in your PG letter. Press the key to scroll to the desired letter, then press Enter. (To enter L, for example, you would press the JKL key 3 times, then press Enter.)

Section 2

7. The eRDP_ML then prompts you to enter the hours:minutes of your surface interval as you have before. You continue planning from here as you've already learned.

Example

You finished your first dive in pressure group K and planned to make a repetitive dive following a 1 hour (1:00) surface interval. This would have put you in pressure group C. However, it is a nice day so you and your buddy relax for one hour and a half (1:30) before beginning the dive. What pressure group does this give you instead?

1. Select the Dive Planning Mode and press No at the FIRST DIVE Y/N prompt.
2. At the PG AFTER SI Y/N prompt, press No.
3. At PG BEFORE SI, press the JKL key twice to scroll to K.



PG BEFORE SI K

4. Press Enter. Use the Alpha/Numeric keys to put in 01:30 at the ENTER SI prompt.



ENTER SI 01H:30M

5. Press Enter. The eRDPM_L shows you that your pressure group after the surface interval is B.

PG AFTER SI B

Practice

Entering Dive Planning Mode Mid-Profile

Use the eRDPM_L to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

1. After a surface interval your pressure group is D. What is your adjusted no decompression limit for a dive to 18 metres?
2. After a dive your pressure group is M. What is your new pressure group after a surface interval of 1 hour?
3. After a dive your pressure group is Q. What would your adjusted no decompression limit be for a repetitive dive to 14 metres after a surface interval of 38 minutes?

Answers: Metric 1. 40 minutes. 2. Pressure group D. 3. 63 minutes.

Section 2

Imperial

1. After a surface interval your pressure group is D. What is your adjusted no decompression limit for a dive to 60 feet?
2. After a dive your pressure group is M. What is your new pressure group after a surface interval of 1 hour, 20 minutes?
3. After a dive your pressure group is Q. What would your adjusted no decompression limit be for a repetitive dive to 50 feet after a surface interval of 38 minutes?

Making Multiple Repetitive Dives

To this point, you've been planning a maximum of two dives: a first dive (not repetitive) and a second, repetitive dive. The eRDP_{ML} automatically provides the adjusted no decompression limit for the repetitive dive based on the pressure group in which you begin the repetitive dive. The eRDP_{ML} also automatically accounts for residual nitrogen to provide you with a new pressure group at the end of the repetitive dive.

Answers: Imperial 1. 39 minutes. 2. Pressure group C. 3. 49 minutes.

You can use the pressure group you get at the end of a repetitive dive to plan another surface interval and another dive. Use the eRDP_{ML} just as you've learned by entering all the dive depths and times and surface interval times leading up to the repetitive dive. Alternatively, as you just learned, you can select the Dive Planning Mode and begin planning your dive based on the pressure group letters recorded on your dive profile after previous dives. The procedure is the same whether your repetitive dive is your second dive of the day or your fourth dive of the day.

Example (Metric)

Your first dive of the day was to 15 metres, which had an NDL of 72 minutes. Your actual dive was 49 minutes, which put you in pressure group Q. After a 1 hour, 10 minute surface interval, your new pressure group was E. You planned a repetitive dive to 14 metres. The adjusted no decompression limit (ANDL) for the repetitive dive was 74 minutes. The actual bottom time (ABT) was 40 minutes. To plan another repetitive dive (third dive of the day) to 12 metres after a 2 hour surface interval:

1. With the eRDP_{ML} showing ANDL 74 MIN for the second dive, press Enter.

Section 2

- The eRDPMI prompts you to enter the dive time. Use the Alpha/Numeric keys to put in 40 minutes.

ENTER ABT 40 MIN

- Press Enter. The eRDPMI shows you that your pressure group after the second dive is R. Record this on your dive profile.

PG AFTER DIVE R

- Press Enter. The eRDPMI prompts you to enter the surface interval between your second dive and your third

dive. Use the Alpha/Numeric keys to put in 02:00.

ENTER SI 02H:00M

- Press Enter. The eRDPMI shows that your new pressure group after this surface interval is B.

PG AFTER SI B

- Press Enter. The eRDPMI prompts you to enter the depth of the next dive. In this example, use the Alpha/Numeric keys to put in 12.

ENTER DEPTH 12

n

7. Press Enter. The eRDP_ML displays 130 minutes as your adjusted no decompression limit for this dive.



ANDL 130 MIN

Note these steps are exactly the same as the steps you've been using in the Dive Planning Mode.

Example (Imperial)

Your first dive of the day was to 50 feet, which had an NDL of 80 minutes. Your actual dive was 51 minutes, which put you in pressure group Q. After a 1 hour, 10 minute surface interval, your new pressure group was E. You planned a

repetitive dive to 40 feet. The adjusted no decompression limit (ANDL) for the repetitive dive was 113 minutes. The actual bottom time (ABT) was 40 minutes. To plan another repetitive dive (third dive of the day), again to 40 feet, after a 2 hour surface interval:

1. With the eRDP_ML showing ANDL 113 MIN for the second dive, press Enter.
2. The eRDP_ML prompts you to enter the dive time. Use the Alpha/Numeric keys to put in 40 minutes.



ENTER ABT 40 MIN

Section 2

3. Press Enter. The eRDP_{ML} shows you that your pressure group after the second dive is P. Record this on your dive profile.



PG AFTER DIVE P

4. Press Enter. The eRDP_{ML} prompts you to enter the surface interval between your second dive and your third dive. Use the Alpha/Numeric keys to put in 02:00.



ENTER SI 02H:00M

5. Press Enter. The eRDP_{ML} shows that your new pressure group after this surface interval is B.



PG AFTER SI B

6. Press Enter. The eRDP_{ML} prompts you to enter the depth of the next dive. In this example, use the Alpha/Numeric keys to put in 40.



ENTER DEPTH 40 FT

7. Press Enter. The eRDP_{ML} displays 124 minutes as your adjusted no decompression limit for this dive.



ANDL 124 MIN

Note these steps are exactly the same as the steps you've been using in the Dive Planning Mode.

Special Rules for Multiple Repetitive Dives

There are some special rules that apply when you plan to make 3 or more dives (the first and second or more repetitive) in a series of repetitive dives. Making 3 or more dives in a series is common during dive vacations in a resort area or on a liveaboard dive boat.



If you're planning 3 or more dives, beginning with the first dive of the day, if your ending pressure group is W or X, the minimum surface interval between all subsequent dives is 1 hour. If your ending pressure group after any dive is Y or Z, the minimum surface interval between all subsequent dives is 3 hours.

If you enter an actual dive time that puts you in pressure groups W, X, Y or Z, the eRDP_{ML} will prompt you to consult this rule.

Section 2

PG AFTER DIVE U

WXYZ RULE

These minimum surface intervals do not apply if you only make 2 dives. If you make 3 or more dives, they apply to all surface intervals after you make a dive with an ending PG of W, X, Y or Z.

Note: Since little is presently known about the physiological effects of multiple dives over multiple days, you are wise to make fewer dives and limit your exposure toward the end of a multiday dive series.

Rule Eleven

After entering your PG and surface interval, the eRDP_{ML} may prompt you with NEW DIVE and SEE RULE 11.

NEW DIVE

SEE RULE 11

When this happens, it means that your residual nitrogen has declined enough that, for planning purposes with the eRDP_{ML}, you may treat the next dive as a first dive. This means you press the Yes key at the FIRST DIVE Y/N prompt.

However, although you plan as though this were a first dive, the WX and YZ minimum surface interval rules (Rule 6 on the inside of the flip cover) still apply.

Check Your Learning

- If you are planning 3 or more dives in one day and your ending pressure group after the second dive is Y, you wait a minimum of _____ hour(s) between all subsequent dives.
 - 1
 - 3

How did you do?

- b.

Practice

Making Multiple Repetitive Dives

Use the eRDP_ML to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

- What is your pressure group after the following:
First dive: 15 metres/40 min,
Surface interval: 1:00
Second dive: 12 metres/60 min

Answer: Metric 1. Pressure group S.

Section 2

2. What is your pressure group after the following:
First dive: 18 metres/30 min,
Surface interval: 0:30
Second dive: 15 metres/30 min
3. What is your adjusted no decompression limit for a dive to 14 metres after the following:
First dive: 17 metres/50 min,
Surface interval: 0:24
Second dive: 16 metres/30 min
Surface interval 1:00

Imperial

1. What is your pressure group after the following:
First dive: 50 feet/40 min,
Surface interval: 1:00
Second dive: 40 feet/60 min
2. What is your pressure group after the following:
First dive: 60 feet/30 min,
Surface interval: 0:30
Second dive: 50 feet/30 min

Answers: Metric 2. Pressure group R. 3. 63 minutes. **Imperial** 1. Pressure group S. 2. Pressure group R.

3. What is your adjusted no decompression limit for a dive to 40 feet after the following:
First dive: 60 feet/50 min,
Surface interval: 0:24
Second dive: 50 feet/30 min
Surface interval: 1:00

Section Three

So far, you've learned to use the eRDP_ML the way you will use it the vast majority of the time. However, there are times when you will want to plan the depths and times of 2 dives first, then determine the shortest surface interval required to make both dives possible. Finding a minimum surface interval is a common planning technique on half-day boat trips.

Answer: Imperial 3. 100 minutes.

Section 3

At other times, you may know you want to stay in the water a certain amount of time. In that case, you want to determine the maximum depth to which you can go for that time and still be within the adjusted no decompression limit.

Finding a minimum surface interval or finding a maximum depth sometimes become confusing for new divers using conventional dive tables. One advantage of the eRDP_{ML} is that as an electronic dive table, it simplifies finding either.

Finding a Minimum Surface Interval

(How long you must wait between 2 dives.)

There are two situations in which you will determine a minimum surface interval. In the first situation, you will plan both dives before diving. In the second situation, you may have already made the first dive and need to determine the minimum surface interval to allow a repetitive dive for a given depth and time.

To find the minimum surface interval by planning both dive depths and times prior to the first dive:

1. At the SELECT MODE prompt, press the Mode/Reset key to select the Surface Interval Mode. Press Enter.
2. The eRDP_{ML} prompts FIRST DIVE Y/N. Press the Yes key.
3. The eRDP_{ML} prompts ENTER DEPTH 1 — M or FT. Use the Alpha/Numeric keys to put in the depth of the first dive and press Enter.

A rectangular display with a black border and a light gray background. The text "ENTER DEPTH 1" is on the left and "FT" is on the right.

4. The eRDP_{ML} will show you the NDL (no decompression limit) for that depth. Press Enter.

5. The eRDP_{ML} prompts ENTER ABT 1 — MIN. Use the Alpha/Numeric keys to put in the actual bottom time of the first dive and press Enter.

A rectangular display with a black border and a light gray background. The text "ENTER ABT 1 MIN" is centered.

6. The eRDP_{ML} prompts ENTER DEPTH 2 — M or FT. Use the Alpha/Numeric keys to put in the depth of the second dive and press Enter.

A rectangular display with a black border and a light gray background. The text "ENTER DEPTH 2" is on the left and "FT" is on the right.

7. The eRDP_{ML} will show you the ANDL for that depth. This is the maximum

Section 3

no decompression time possible for the second dive (ANDL for pressure group A). Press Enter.

8. The eRD_{ML} prompts ENTER ABT 2 — — MIN. Use the Alpha/Numeric keys to put in the time of the second dive and press Enter.
9. The eRD_{ML} displays MIN SI, showing the minimum surface interval required. Note that if the display reads 00:00, then the second dive can be made immediately.



ENTER ABT 2 MIN



MIN SI 014:19

Example (Metric)

Suppose you're planning 2 dives – the first to 18 metres for 45 minutes and the second to 14 metres for one hour. How long does your surface interval need to be to make the second no decompression dive.

1. Go to Surface Interval Mode and press Enter.
2. At the FIRST DIVE Y/N prompt, press Yes.
3. At the prompt, use the Alpha/Numeric keys to put in 18 metres for the first dive depth.



ENTER DEPTH 1 18

4. Press Enter. The eRDP_{ML} shows NDL 56 MIN. Press Enter.
5. At the prompt, use the Alpha/Numeric keys to put in 45 minutes for the first dive actual bottom time.



ENTER ABT 1 45 MIN

6. Press Enter. At the prompt, use the Alpha/Numeric keys to put in 14 metres for the second depth.



ENTER DEPTH 2 14

7. Press Enter. The eRDP_{ML} shows ANDL 90 MIN. Press Enter again.

8. At the prompt, use the Alpha/Numeric keys to put in 60 minutes for the second dive actual bottom time.



ENTER ABT 2 60 MIN

9. The eRDP_{ML} prompts you that the second dive requires a safety stop. Press Enter again and it shows that the minimum surface interval required is 35 minutes.



MIN SI 00H:35M

Section 3

Example (Imperial)

Suppose you're planning 2 dives – the first to 60 feet for 45 minutes and the second to 50 feet for one hour. How long does your surface interval need to be to make the second no decompression dive.

1. Go to Surface Interval Mode and press Enter.
2. At the FIRST DIVE Y/N prompt, press Yes.
3. At the prompt, use the Alpha/Numeric keys to put in 60 feet for the first dive depth.



ENTER DEPTH 1 60 FT

4. Press Enter. The eRDP_{ML} shows NDL 55 MIN. Press Enter again.
5. At the prompt, use the Alpha/Numeric keys to put in 45 minutes for the first dive actual bottom time.



ENTER ABT 1 45 MIN

6. Press Enter. At the prompt, use the Alpha/Numeric keys to put in 50 feet for the second depth.



ENTER DEPTH 2 50 FT

7. Press Enter. The eRDP_{ML} shows ANDL 73 MIN. Press Enter again.

8. At the prompt, use the Alpha/Numeric keys to put in 60 minutes for the second dive actual bottom time.
9. Press Enter. The eRDP_{ML} prompts you that the second dive requires a safety stop. Press Enter again and it shows that the minimum surface interval required is 1 hour, 19 minutes.



MIN SI 01H:19M

Practice

Finding a Minimum Surface Interval

Use the eRDP_{ML} to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

1. What is the minimum surface interval to make the following dives?
 First dive: 18 metres/40 min,
 Second dive: 18 metres/40 min

Answer: Metric 1. 1:08.

Section 3

2. What is the minimum surface interval to make the following dives?

First dive: 16 metres/60 min,
Second dive: 14 metres/70 min

3. What is the minimum surface interval to make the following dives?

First dive: 18 metres/50 min,
Second dive: 14 metres/60 min

2. What is the minimum surface interval to make the following dives?

First dive: 50 feet/60 min,
Second dive: 40 feet/70 min

3. What is the minimum surface interval to make the following dives?

First dive: 60 feet/50 min,
Second dive: 50 feet/60 min

Imperial

1. What is the minimum surface interval to make the following dives?

First dive: 60 feet /40 min,
Second dive: 60 feet/40 min

Answers: Metric 2. 1:07. 3. 0:42. Imperial 1. 1:21. 2. 0:11. 3. 1:26.

Finding a Minimum Surface Interval – Continued

Sometimes you need to determine a minimum surface interval after you've already started diving. In this case, you will use the eRDP_{ML} to determine the minimum surface interval based on the pressure group letter you have after the dive preceding the surface interval in question. Find your minimum surface interval this way:

1. At the SELECT MODE prompt, press the Mode/Reset key to select the Surface Interval Mode. Press Enter.
2. The eRDP_{ML} prompts FIRST DIVE Y/N. Press the No key.
3. The eRDP_{ML} prompts PG END DIVE 1. Use the Alpha/Numeric keys to put in the pressure group letter you have after the first dive and press Enter.



PG END DIVE 1

4. The eRDP_{ML} prompts ENTER DEPTH 2 — — M or FT. Use the Alpha/Numeric keys to put in the depth of the second dive. Press Enter.



ENTER DEPTH 2

5. The eRDP_{ML} tells you the maximum possible adjusted no decompression

Section 3

limit for that depth, which is based on being in Pressure Group A. Press Enter.

- At the ENTER ABT 2 — MIN prompt, use the Alpha/Numeric keys to put in time for the second dive that is less than or equal to the adjusted no decompression limit. Press Enter.



ENTER ABT 2 35 MIN

- The eRDP_{ML} displays MIN SI, showing the minimum surface interval required. Note that if the display reads 00:00, then the second dive can be made immediately.

Example (Metric)

You've just surfaced from a dive and your ending pressure group is J. You want to make another dive to 18 metres for 35 minutes. What is the shortest time you have to wait at the surface to make the dive?

- Go to Surface Interval Mode and press Enter.
- At the FIRST DIVE Y/N prompt, press No.
- At the prompt, use the Alpha/Numeric keys to put in J.



PG END DIVE 1 J

4. Press Enter. At the prompt, use the Alpha/Numeric keys to put in 18 metres for the depth of the next dive.



ENTER DEPTH 2 18

5. Press Enter. The eRDP_{ML} shows you ANDL 50 MIN. Press Enter again.
6. At the prompt, use the Alpha/Numeric keys to put in 35 minutes.



ENTER ABT 2 35 MIN

7. Press Enter. The eRDP_{ML} prompts you that this dive requires a safety stop. Press Enter again. The eRDP_{ML} shows

you must wait a minimum of 25 minutes before diving to 18 metres for 35 minutes.



MIN 51 00H:25M

Example (Imperial)

You've just surfaced from a dive and your ending pressure group is J. You want to make another dive to 60 feet for 35 minutes. What is the shortest time you have to wait at the surface to make the dive?

1. Go to Surface Interval Mode and press Enter.
2. At the FIRST DIVE Y/N prompt, press No.

Section 3

3. At the prompt, use the Alpha/Numeric keys to put in J.

PG END DIVE 1 J

4. Press Enter. At the prompt, use the Alpha/Numeric keys to put in 60 feet for the depth of the next dive.

ENTER DEPTH 2 60 FT

5. Press Enter. The eRDP_{ML} shows you ANDL 49 MIN. Press Enter again.
6. At the prompt, use the Alpha/Numeric keys to put in 35 minutes.

ENTER ABT 1 35 MIN

7. Press Enter. The eRDP_{ML} prompts you that this dive requires a safety stop. Press Enter again. The eRDP_{ML} shows you must wait a minimum of 25 minutes before diving to 60 feet for 35 minutes.

MIN 51 00H:25M

Practice

Finding a Minimum Surface Interval – Continued

Use the eRDP_ML to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

1. What is the minimum surface interval to make the following dive?
Pressure group after previous dive: P
Second dive: 18 metres/40 min

2. What is the minimum surface interval to make the following dive?
Pressure group after previous dive: S
Second dive: 16 metres/60 min

Imperial

1. What is the minimum surface interval to make the following dive?
Pressure group after previous dive: P
Second dive: 60 feet/40 min
2. What is the minimum surface interval to make the following dive?
Pressure group after previous dive: S
Second dive: 50 feet/60 min

Answers: Metric 1. 1:08. 2. 2:39. Imperial 1. 1:17. 2. 1:19.

Section 3

Finding a Maximum Depth

You use the Maximum Depth Mode any time you know how long you want to dive and need to know the deepest depth for which that time is allowable. You can use the Maximum Depth Mode for your first dive, or for a repetitive dive.

To find the maximum depth for a desired dive time on your first dive:

1. At SELECT MODE, go to MAXIMUM DEPTH using the Mode/Reset key. Press Enter.
2. At the FIRST DIVE Y/N prompt, press the Yes key.

3. The eRDP_{ML} prompts you to enter the desired dive time. Use the Alpha/Numeric keys to enter the time, and press Enter.



DIVE TIME 00:00

4. The eRDP_{ML} reminds you that if you go to the maximum depth for a given time, a safety stop is required. Press Enter.
5. The eRDP_{ML} shows you MAX DEPTH — M or FT, indicating the deepest depth you can reach if you dive for the time you entered.



MAX DEPTH 60 FT

To find the maximum depth for a desired dive time for a repetitive dive:

1. At SELECT MODE, go to MAXIMUM DEPTH using the Mode/Reset key. Press Enter.
2. At the FIRST DIVE Y/N prompt, press the No key.
3. The eRDP_{ML} prompts you to enter PG AFTER SI. Use the Alpha/Numeric keys to enter your pressure group following the surface interval before the dive, and press Enter.

PG AFTER SI

4. The eRDP_{ML} prompts you to enter the desired dive time. Use the Alpha/Numeric keys to enter the time, and press Enter.

DIVE TIME 00

5. If appropriate, eRDP_{ML} reminds you that if you go to the maximum depth for the given time, a safety stop is required. Press Enter. The eRDP_{ML} shows you MAX DEPTH — M or FT, indicating the deepest depth you can reach if you dive for the time you entered.

MAX DEPTH 60

FT

Section 3

Examples (Metric)

For your first dive of the day, you would like to dive for one hour. What's the deepest depth possible for a one hour dive?

1. At SELECT MODE, use the Mode/Reset key to go to MAXIMUM DEPTH. Press Enter.
2. At the FIRST DIVE Y/N prompt, press the Yes key.
3. At the DIVE TIME -- MIN prompt, put in 60 minutes using the Alpha/Numeric keys.



DIVE TIME 60 MIN

4. The eRDP_{ML} shows you that your maximum possible depth is 16 metres.



MAX DEPTH 16

You've surfaced from a dive and would like to make another dive for 45 minutes. Checking your dive profile, your pressure group after the surface interval will be G. What is the deepest depth possible for a 45 minute dive?

1. At SELECT MODE, use the Mode/Reset key to go to MAXIMUM DEPTH. Press Enter.
2. At the FIRST DIVE Y/N prompt, press the No key.

3. At the PG AFTER SI prompt, use the Alpha/Numeric keys to put in G.

PG AFTER SI G

4. At the DIVE TIME -- MIN prompt, put in 45 minutes using the Alpha/Numeric keys.

DIVE TIME 45 MIN

5. Press Enter after Safety Stop prompt. The eRDP_ML shows you that your maximum possible depth is 16 metres.

MAX DEPTH 16

Examples (Imperial)

For your first dive of the day, you would like to dive for one hour. What's the deepest depth possible for a one hour dive?

1. At SELECT MODE, use the Mode/Reset key to go to MAXIMUM DEPTH. Press Enter.
2. At the FIRST DIVE Y/N prompt, press the Yes key.
3. At the DIVE TIME -- MIN prompt, put in 60 minutes using the Alpha/Numeric keys and press Enter.

DIVE TIME 60 MIN

Section 3

4. Press Enter after Safety Stop prompt. The eRDP_ML shows you that your maximum possible depth is 55 feet.

MAX DEPTH 55 FT

You've surfaced from a dive and would like to make another dive for 45 minutes. Checking your dive profile, your pressure group after the surface interval will be G. What is the deepest depth possible for a 45 minute dive?

1. At SELECT MODE, use the Mode/Reset key to go to MAXIMUM DEPTH. Press Enter.
2. At the FIRST DIVE Y/N prompt, press the No key.

3. At the PG AFTER SI prompt, use the Alpha/Numeric keys to put in G and press Enter.
4. At the DIVE TIME -- MIN prompt, put in 45 minutes using the Alpha/Numeric keys and press Enter.

PG AFTER SI G

5. Press Enter after Safety Stop prompt. The eRDP_ML shows you that your maximum possible depth is 50 feet.

DIVE TIME 45 MIN

MAX DEPTH 50 FT

Practice

Finding a Maximum Depth

Use the eRDP_ML to solve these sample problems and check your answers against the answers given. Be sure your answers are correct before proceeding.

Metric

1. On your first dive of the day, what is the maximum depth if you plan to dive for 90 minutes?

2. Your pressure group after a surface interval is E. What is the maximum depth if you plan to dive for 35 minutes?

Imperial

1. On your first dive of the day, what is the maximum depth if you plan to dive for 90 minutes?
2. Your pressure group after a surface interval is E. What is the maximum depth if you plan to dive for 35 minutes?

Answers: Metric 1. 14 metres. 2. 18 metres. Imperial 1. 45 feet. 2. 60 feet.

Section 4

Section Four

Multilevel Diving

One of the biggest advances in diving since the mid 1980s has been the establishment and validation of *multilevel diving* through research, theory and millions of dives using dive computers and The Wheel® version of the RDP. Prior to multilevel diving, you had to plan your dive as though you'd stayed at the deepest depth for your entire bottom time, even though it is far more common to descend to your deepest depth and then gradually ascend as your dive progresses.

On an ascending profile, you absorb nitrogen more slowly than if you remained at the deepest depth the entire time. Multilevel diving credits you for slower nitrogen absorption, thereby extending your no decompression time compared to assuming you spent the entire dive at the deepest depth. Your dive computer does this automatically, but you can use the eRDP_{ML} to plan multilevel dives without a dive computer. This is useful not only if you have a problem with your dive computer (which is rare), but as a way to plan computer dives and get a rough approximation of your allowable dive times on a multilevel profile.

Special Rules for Multilevel Diving

As you'll see, planning a multilevel dive is very much like planning a series of repetitive dives without a surface interval between them. Therefore, you already know most of the steps. However, before we get into the steps for planning a multilevel dive, there are some special rules unique to multilevel diving that you must apply.

1. **Depth levels.** You may plan a multilevel dive with 2 or 3 levels using the eRDP_{ML}. Each level must be shallower than the previous level. Your first level may be any depth within the eRDP_{ML} limits (no deeper than 40 metres/130 feet). For a given first depth level, your second level must be no deeper than the depths on the following table (but may be shallower). Similarly, for a given second depth level, your third level (if you plan one) must be no deeper than the depths shown (but may be shallower).

Section 4

Metric

Find the *exact* or *next greater* depth of first (deepest) level in left column. Right column shows maximum depth for next level.

If previous level is:	Next level must be no deeper than:
40 m	26 m
38-34 m	24 m
32-28 m	20 m
26-22 m	16 m
20-16 m	12 m

Imperial

Find the *exact* or *next greater* depth of first (deepest) level in left column. Right column shows maximum depth for next level.

If previous level is:	Next level must be no deeper than:
120-130 ft	80 ft
95-110 ft	70 ft
80-90 ft	60 ft
65-75 ft	50 ft
50-60 ft	40 ft

If you attempt to enter a second or third depth level that is deeper than those listed, the eRD_{ML} will prompt you that you've exceeded ML limits.

EXCEEDS ML

ASCENT LIMIT

If planning a dive during which you would ascend a bit, but not to a next level that is no deeper than those indicated in the table, simply treat that portion of the dive as if it were all at the first level. Alternatively, you may simply plan a conventional single depth dive.

2. Once you ascend to a new level, you must remain at the depth or shallower. If you accidentally descend below that depth, you must treat the dive as a single depth dive based on the deepest depth and the total bottom time. (It's recommended you determine the single depth no decompression limit as well as the multilevel limits as part of your dive planning.) If you've exceeded the NDL for the depth, you are in an emergency decompression situation. Immediately ascend at a rate not to exceed 18 metres/60 feet per minute to 5 metres/15 feet for an 8-minute decompression stop.

Section 4

Do not dive again for 6 hours.

As a precaution, during the dive it's a good practice to stay at least 3 metres/10 feet above the depth level to provide a margin for error.

3. Multilevel dives have special no decompression limits. Your NDL for the first level is the same as the NDL for a single depth dive planned to that depth. Subsequent levels have an NDL calculated specifically for multilevel diving. The eRDP_{ML} provides the maximum ML limit for each level during planning based on the depth and duration of the previous level. Your ABT for that level may not exceed the ML limit.

When planning depth levels shallower than 12 metres/40 feet, the eRDP_{ML} may indicate ML 0 MIN. When this happens, it means that you cannot calculate further levels. Press the Back button followed by Enter to get the pressure group you would have by ending the dive after the previous level.



ML 0 MIN

If you come within 3 pressure groups of the ML limit on the last portion of your dive, or if you descend to 30 metres/100 feet or deeper on any portion of your dive, plan a 3-minute

safety stop at 5 metres/15 feet prior to your final ascent. The eRDP_{ML} will prompt you if you plan a dive with a required safety stop. A safety stop is always recommended, even when not required by the RDP.

4. Do not delay your time between levels. When your time is up at one level, ascend directly to the next level at a rate that does not exceed 18 metres/60 feet per minute.
5. Be sure to write your depth levels and ML times on a slate that you take with you on your dives. If you exceed a multilevel no decompression limit (ML) by 5 minutes or less, and you have also exceeded the NDL for

your deepest depth, you are then in an emergency decompression situation. Immediately ascend at a rate not to exceed 18 metres/60 feet per minute to 5 metres/15 feet for an 8-minute decompression stop. Do not dive again for 6 hours. If you accidentally exceed an ML by more than 5 minutes you must immediately ascend at a rate not to exceed 18 metres/60 feet per minute to 5 metres/15 feet for an emergency decompression stop of no less than 15 minutes. Upon surfacing, the diver must remain out of the water for at least 24 hours prior to making another dive.

Section 4

Practice

Metric

1. If you plan a multilevel dive with a first depth level of 28 metres, what is the maximum allowable depth for the second level of your dive?

Imperial

1. If you plan a multilevel dive to a first depth level of 90 feet, what is the maximum allowable depth for the second level of your dive?

Planning Multilevel Dives

Now let's go through the steps for planning multilevel dives with the eRDP_{ML}. We'll start with a multilevel dive that is the first dive of the day.

1. Turn on the eRDP_{ML} and press the Mode/Rest key to select DIVE PLANNING. Press Enter. At the MULTILEVEL Y/N prompt, press Yes. At the FIRST DIVE Y/N prompt, press Yes.

Answers: Metric 1. 20 metres. Imperial 1. 60 feet.

- The eRDP_{ML} will show ENTER LVL 1 ____ M or FT. Enter the depth level using the Alpha/Numeric keys, and press Enter.



ENTER LVL 1

- Since this is the first level, the eRDP_{ML} will show you the NDL for that depth. Press Enter. The eRDP_{ML} prompts you to enter the actual time you plan to spend at the first level. Type in the minutes using the Alpha/Numeric keys and press Enter.



ENTER ABT MIN

- The eRDP_{ML} will show you the pressure group following the first level. Press Enter again, and it prompts you to type in the second depth level and press Enter. Remember that the next level can be no deeper than the levels shown in the table at the beginning of this section. If you accidentally enter a depth that is too deep, the eRDP_{ML} will warn EXCEEDS ML ASCENT LIMIT. In that case, press the Back key and enter a shallower depth level.



ENTER LVL 2

Section 4

5. The eRDP_{ML} will show you the ML limit for that depth. Your actual time at this level cannot exceed this time. Press Enter.



ML 19 MIN

6. At ENTER ABT _____ MIN, type in the actual time planned for this level and press Enter. The eRDP_{ML} shows you the pressure group following this level. Press Enter.



PG AFTER LVL 2 P

7. The eRDP_{ML} prompts you to enter the depth of your third level. If you are only making a 2 level dive (common), simply press Enter again. The eRDP_{ML} will prompt you to make a required safety stop if one applies. Press Enter and it displays your pressure group, which is your ending pressure group for the dive. If your pressure group is W, X, Y or Z, the eRDP_{ML} will prompt you to consult the WXYZ rule.

If you plan to have a third level, type the depth in and press Enter. The eRDP_{ML} shows you the maximum allowable time for that depth level.

(Remember that if ML 0 MIN appears that you cannot make a third level. Press the Back button and press Enter to complete the plan as a two level dive.) Press Enter. Enter your actual planned time at the ABT _____ MIN prompt. Press Enter and the eRDP_{ML} will prompt you to make a required safety stop if one applies, show your ending pressure group and to consult the WXYZ rules if they apply. Press Enter after each to move on to the next.

PG AFTER DIVE 5

8. Press Enter again. This brings you to the Surface Interval screen. You may enter a surface interval and go on to plan a repetitive single depth or multilevel dive as you've already learned.

Example (Metric)

Assume you plan to make a multilevel dive beginning at 30 metres with levels at 18 metres and 12 metres.

1. At SELECT MODE, press the Mode/Reset Key to select DIVE PLANNING and press Enter.
2. At MULTILEVEL Y/N, press Yes.
3. At FIRST DIVE Y/N, press Yes.

Section 4

4. At ENTER LVL 1, type in 30 metres and press Enter. The eRDPM_L shows you the maximum time for the first level is 20 minutes. Press Enter.

NOL 20 MIN

5. You plan to stay only 10 minutes at 30 metres. Type in 10 at the ENTER ABT prompt and press Enter.

ENTER ABT 10 MIN

6. The eRDPM_L displays PG AFTER LVL 1 E. Press Enter.

7. At ENTER LVL 2, you type in 18 metres for your second planned depth. Press Enter. The eRDPM_L shows that your maximum time at this level is 29 minutes.

ML 29 MIN

8. Press Enter. You plan to stay 15 minutes at this depth, so type in 15 at ENTER ABT. Press Enter.

ENTER ABT 15 MIN

9. The eRDPM_L tells you your pressure group is M after the second level. Press Enter.

- At ENTER LVL 3, you type in 12 metres for your planned final level and press Enter.
- The eRDP_{ML} shows you have 75 minutes allowable no decompression time. Press Enter. You decide to stay 30 minutes. Type 30 at ENTER ABT and press Enter.

ENTER ABT 30 MIN

- The eRDP_{ML} advises you that your dive requires a safety stop. Press Enter. The eRDP_{ML} shows that your ending pressure group is S.

SAFETY STOP 3 MIN

SEE RULE 2

PG AFTER DIVE S

- Press Enter. You may now enter a surface interval and continue on to plan a repetitive dive (single level or multilevel) as you learned in Section Two.

Section 4

Example (Imperial)

Assume you plan to make a multilevel dive beginning at 100 feet with levels at 60 feet and 40 feet.

1. At SELECT MODE, press the Mode/Reset Key to select DIVE PLANNING and press Enter.
2. At MULTILEVEL Y/N, press Yes.
3. At FIRST DIVE Y/N, press Yes.
4. At ENTER LVL 1, type in 100 feet and press Enter. The eRDP_{ML} shows you the maximum time for the first level is 20 minutes. Press Enter.

NDL 20 MIN

5. You plan to stay only 10 minutes at 100 feet. Type in 10 at the ENTER ABT prompt and press Enter.

ENTER ABT 10 MIN

6. The eRDP_{ML} displays PG AFTER LVL 1 E. Press Enter.
7. At ENTER LVL 2, you type in 60 feet for your second planned depth. Press Enter. The eRDP_{ML} shows that your maximum time at this level is 29 minutes.

ML 29 MIN

8. Press Enter. You plan to stay 15 minutes at this depth, so type in 15 at ENTER ABT. Press Enter.

ENTER ABT 15 MIN

9. The eRDP_ML tells you your pressure group is M after the second level. Press Enter.
10. At ENTER LVL 3, you type in 40 feet for your planned final level and press Enter.
11. The eRDP_ML shows you have 72 minutes allowable no decompression time. Press Enter. You decide to stay 30 minutes. Type 30 at ENTER ABT and press Enter.

ENTER ABT 30 MIN

12. The eRDP_ML advises you that your dive requires a safety stop. Press Enter. The eRDP_ML shows that your ending pressure group is S.

SAFETY STOP 3 MIN

SEE RULE 2

PG AFTER DIVE S

Section 4

13. Press Enter. You may now enter a surface interval and continue on to plan a repetitive dive (single level or multilevel) as you learned in Section Two.

Planning Repetitive Multilevel Dives

Now that you understand how to enter a multilevel dive, you can apply these steps to a repetitive dive based on what you learned in Section Two.

1. Turn on the eRDP_{ML} and press the Mode/Rest key to select DIVE PLANNING. Press Enter. At the MULTILEVEL Y/N prompt, press Yes.

At the FIRST DIVE Y/N prompt, press No.

2. The eRDP_{ML} will ask PG AFTER SI Y/N. Press Yes or No depending upon whether you're starting with the pressure group following a dive or following a surface interval, as you've already learned. If you press No, the eRDP_{ML} will take you through the ENTER SI 00H:00M screen to arrive at your pressure group after the surface interval, just as you've already learned.



PG AFTER SI F

If you already have your pressure group following a surface interval, you press Yes and enter it at PG START DIVE, as you learned previously.

PG START DIVE F

3. Press Enter. The eRDP_{ML} will show ENTER LVL 1 ____ M or FT. Enter the depth using the Alpha/Numeric keys, and press Enter.

ENTER LVL 1

4. Since this is the first level, the eRDP_{ML} will show you the ANDL for that

depth. Press Enter. The eRDP_{ML} prompts you to enter the actual time you plan to spend at the first level. Type in the minutes using the Alpha/Numeric keys and press Enter.

ANDL 16 MIN

ENTER ABT MIN

5. The eRDP_{ML} will show you the pressure group following the first level. Press Enter again, and it prompts you to type in the second depth level and press Enter. Remember that the next level can be no deeper than the levels

Section 4

shown in the table at the beginning of this section. If you accidentally enter a depth that is too deep, the eRDP_{ML} will warn EXCEEDS ML ASCENT LIMIT. In that case, press the Back key and enter a shallower depth.



ENTER LVL 2

6. The eRDP_{ML} will show you the ML limit for that depth. Your actual time at this level cannot exceed this time. Press Enter.



ML 19 MIN

7. At ENTER ABT _____ MIN, type in the actual time planned for this level and press Enter. The eRDP_{ML} shows you the pressure group following this level. Press Enter.



PG AFTER LVL 2 P

8. The eRDP_{ML} prompts you to enter the depth of your third level. If you are only making a two level dive (common), simply press Enter again. The eRDP_{ML} will prompt you to make a required safety stop if one applies. Press Enter after each until it displays your pressure group, which is your ending pressure group for the dive.

If your pressure group is W, X, Y or Z, the eRDP_{ML} will prompt you to consult the WXYZ rule.

If you plan to have a third level, type the depth in and press Enter. The eRDP_{ML} shows you the maximum allowable time for that depth level. (Remember that if ML 0 MIN appears that you cannot make a third level. Press the Back button and press Enter to complete the plan as a two level dive.) Press Enter. Enter your actual planned time at the ENTER ABT _____ MIN prompt. Press Enter and the eRDP_{ML} will prompt you to make a required safety stop if one applies. It displays

your ending pressure group and tells you to consult the WXYZ rules if they apply. Press Enter after each screen to move on.

PG AFTER DIVE W

9. Press Enter again. This brings you to the Surface Interval screen. You may enter a surface interval and go on to plan a repetitive single depth or multilevel dive as you've already learned.

Section 4

Example (Metric)

You ended the last dive in Pressure Group P and plan to make a repetitive dive with two levels at 24 and 14 metres. Your surface interval is 90 minutes.

1. At SELECT MODE, press the Mode/Reset Key to select DIVE PLANNING and press Enter.
2. At MULTILEVEL Y/N, press Yes.
3. At FIRST DIVE Y/N, press No.
4. At PG AFTER SI Y/N press No.
5. At PG BEFORE SI type in P and press Enter.
6. At ENTER SI, type in 01H:30M and press Enter. The eRDP_{ML} tells you your

new Pressure Group is C.
Press Enter.

PG AFTER SI C

7. At ENTER LVL 1, type in 24 metres and press Enter. The eRDP_{ML} shows you the maximum time for the first level is 21 minutes. Press Enter.

ANDL 21MIN

8. You plan to stay 15 minutes at 24 metres. Type in 15 at the ENTER ABT prompt and press Enter.

ENTER ABT 15MIN

9. The eRDP_{ML} displays PG AFTER LVL 1 N. Press Enter.
10. At ENTER LVL 2, you type in 14 metres for your second planned depth. Press Enter. The eRDP_{ML} shows that your maximum time at this level is 37 minutes.

ML 37 MIN

11. Press Enter. You plan to stay 25 minutes at this depth, so type in 25 at ENTER ABT. Press Enter.

ENTER ABT 25 MIN

12. The eRDP_{ML} tells you your pressure group is U after the second level. Press Enter.
13. This is only a two level dive, so at ENTER LVL 3, press Enter. The eRDP_{ML} reminds you that this dive requires a safety stop. Press Enter.

SAFETY STOP 3 MIN

SEE RULE 2

14. The eRDP_{ML} shows that your final pressure group for the dive is U.

PG AFTER DIVE U

Section 4

15. Press Enter to reach the surface interval screen if you wish to plan a subsequent dive.

Example (Imperial)

You ended the last dive in Pressure Group P and want plan to make a repetitive dive with two levels at 80 and 45 feet. Your surface interval is 90 minutes.

1. At SELECT MODE, press the Mode/Reset Key to select DIVE PLANNING and press Enter.
2. At MULTILEVEL Y/N, press Yes.
3. At FIRST DIVE Y/N, press No.
4. At PG AFTER SI Y/N press No.

5. At PG BEFORE SI type in P and press Enter.
6. At ENTER SI, type in 01H:30M and press Enter. The eRDPM_L tells you your new Pressure Group is C. Press Enter.

PG AFTER SI C

7. At ENTER LVL 1, type in 80 feet and press Enter. The eRDPM_L shows you the maximum time for the first level is 20 minutes. Press Enter.

ANDL 20 MIN

8. You plan to stay 15 minutes at 80 feet. Type in 15 at the ENTER ABT prompt and press Enter.

ENTER ABT 15 MIN

9. The eRDP_ML displays PG AFTER LVL 1 N. Press Enter.
10. At ENTER LVL 2, you type in 45 feet for your second planned depth. Press Enter. The eRDP_ML shows that your maximum time at this level is 40 minutes.

ML 40 MIN

11. Press Enter. You plan to stay 25 minutes at this depth, so type in 25 at ENTER ABT. Press Enter.

ENTER ABT 25 MIN

12. The eRDP_ML tells you your pressure group is U after the second level. Press Enter.
13. This is only a two level dive, so at ENTER LVL 3, press Enter. The eRDP_ML reminds you that this dive requires a safety stop. Press Enter.

SAFETY STOP 3 MIN

Section 4

SEE RULE 2

14. The eRDP_ML shows that your final pressure group for the dive is U.

PG AFTER DIVE U

15. Press Enter to reach the surface interval screen if you wish to plan a subsequent dive.

Practice (Metric)

Use the eRDP_ML to solve the following sample problems and check your answers

against the answers given. Make sure all your answers are correct before proceeding.

1. If you plan a multilevel dive to a depth of 28 metres, what is the maximum allowable depth for the second portion of your dive?
2. You plan a multilevel dive, beginning at a depth of 30 metres. You plan to stay at 30 metres for 9 minutes, then ascend to 14 metres for 30 minutes.
 - A. Can you make a multilevel dive to 30 metres, then ascend to the 14-metre level?

Answers: Metric 1. 20 metres. **2A.** Yes.

Section 4

- B. What is your no decompression limit for the first level? (30 metres)?
- C. What is your pressure group after 9 minutes at 30 metres?
- D. What is the maximum time you can spend at your next level (14 metres)?
- E. You plan to stay 30 minutes at 14 metres. What will your pressure group be upon surfacing?
3. You plan a multilevel dive, beginning at a depth of 31 metres. You plan to stay at 31 metres for 9 minutes, then ascend to 20 metres for an additional 15 minutes. What will your pressure group be upon surfacing?
4. You plan a multilevel dive, beginning at a depth of 36 metres. You plan to stay at 36 metres for 10 minutes, then ascend to 18 metres for 15 minutes. You then plan to ascend to 10 metres for 30 minutes. What will your pressure group be upon surfacing?

Answers: Metric 2B. 20 minutes. **2C.** Pressure Group D. **2D.** 65 minutes. **2E.** Pressure Group O. **3.** Pressure Group N. **4.** Pressure Group S.

Section 4

Practice (Imperial)

Use the eRDP_ML to solve the following sample problems and check your answers against the answers given. Make sure all your answers are correct before proceeding.

1. If you plan a multilevel dive to a depth of 90 feet, what is the maximum allowable depth for the second portion of your dive?
2. You plan a multilevel dive, beginning at a depth of 100 feet. You plan to stay at 100 feet for 9 minutes, then ascend to 45 feet for 30 minutes.
 - A. Can you make a multilevel dive to 100 feet, then ascend to the 45-foot level?
 - B. What is your no decompression limit for the first level (100 feet)?
 - C. What is your pressure group after 9 minutes at 100 feet?
 - D. What is the maximum time you can spend at your next level (45 feet)?
 - E. You plan to stay 30 minutes at 45 feet. What will your pressure group be upon surfacing?

Answers: Imperial 1. 60 feet. **2A.** Yes. **2B.** 20 minutes. **2C.** Pressure Group D. **2D.** 69 minutes. **2E.** Pressure Group O.

3. You plan a multilevel dive, beginning at a depth of 105 feet. You plan to stay at 105 feet for 9 minutes, then ascend to 70 feet for an additional 15 minutes. What will your pressure group be upon surfacing?
4. You plan a multilevel dive, beginning at a depth of 120 feet. You plan to stay at 120 feet for 10 minutes, then ascend to 60 feet for 15 minutes. You then plan to ascend to 35 feet for 30 minutes. What will your pressure group designation be upon surfacing?

Answers: Imperial 3. Pressure Group O. 4. Pressure Group T.

Section Five

Reminders and Suggestions

1. Remember to use the Back key when planning dives. When finding a minimum surface interval, for example, if the interval is longer than you like, use the Back key to enter a shorter dive time for the second dive.
2. Write down your dive profile information on a slate as you progress through the day. The eRDP_{ML} has no memory. By writing down the information, you save time by being able to use the Dive

Planning mode with a PG letter. That way, you don't have to enter all the dives and surface intervals preceding the dive you're planning. Use the slate to take your depth and time information on your dive for reference underwater.

3. Pay attention to the rules on the General Rules for Using the eRDP_{ML} inside the flip cover, and this Instructions for Use and Study Guide.
4. The eRDP_{ML} and other versions of the Recreational Dive Planner are dive tables intended for recreational no stop (no decompression) diving.



Dives requiring decompression (other than required safety stops) are beyond the RDP's scope. Consider dives that exceed the limits an emergency situation.

- ◆ If a no decompression limit is exceeded by no more than 5 minutes, an 8 minute decompression stop at 5 metres/15 feet is mandatory. Upon surfacing, remain out of the water for at least 6 hours before diving again.
- ◆ If a no decompression limit is exceeded by more than 5 minutes, a 15 minute decompression stop

at 5 metres/15 feet is mandatory, air supply permitting. Upon surfacing, remain out of the water for at least 24 hours prior to making another dive.

5. Stay up on the current flying after diving recommendations and follow them. The recommendations included inside the flip cover may change over time.
6. Never exceed the limits of the RDP and whenever possible, avoid diving to the limits. You learn to find the limits with the RDP so that you can stay *well within them*.

Section 5

Dive Tables Definitions Review

You've learned the following terms and concepts as they apply to dive tables like the eRDP_{ML}, as well as to dive computers. This list provides a convenient review.

Actual Bottom Time (ABT) — the total time actually spent underwater from the beginning of descent until leaving the bottom for a direct continuous ascent to the surface or safety stop.

Adjusted No Decompression Limit — the time limit for a repetitive dive that accounts for residual nitrogen. Your actual bottom time should never exceed the adjusted no decompression limit.

Ascent Rate — the proper speed for ascending, which is no faster than 18 metres/60 feet per minute. A slower rate is acceptable and appropriate.

Bottom Time — the time from the beginning of descent until beginning a direct, continuous ascent to the surface or safety stop.

Decompression Diving — diving that requires planning stops during ascent to avoid decompression sickness. In recreational diving, a decompression stop is considered an emergency procedure only, and never an intentional part of the dive plan.

Dive Profile — a drawing of your dive plan, used to avoid confusion and omissions when using the dive tables.

Multilevel Diving — planning profiles that credit you for slower nitrogen absorption when you ascend to a shallower depth. This provides more no stop dive time. The eRDP_{ML} allows you to calculate multilevel dive profiles with up to three levels. Dive computers automatically calculate multilevel profiles.

ML (Multilevel Limit) — The maximum allowable no decompression time you have on each level of a multilevel dive.

No Decompression Limit (NDL) — the maximum time that can be spent at a depth before decompression stops are required. Also called “no-stop time.”

No Stop dive — a dive made within no decompression limits because you don't have any required emergency decompression stops. Also called “no decompression dive.”

Pressure Group — a letter used on the Recreational Dive Planner to designate the amount of theoretical residual nitrogen in your body.

Section 5

Repetitive Dive — a dive that follows another while there's still a significant amount of residual nitrogen in your body. Using the Recreational Dive Planner, generally this is a dive made within 6 hours of a previous dive.

Residual Nitrogen — the higher-than-normal amount of nitrogen remaining in your body after a dive.

Residual Nitrogen Time (RNT) — an amount of nitrogen, expressed in minutes, for a specific depth added to the actual bottom time of a dive to account for residual nitrogen from a previous dive. The eRDP_{ML} adds RNT automatically based upon the pressure group letter.

Safety Stop — a stop usually at 5 metres/15 feet for three or more minutes at the end of a dive for additional safety. A safety stop is recommended after all dives (air supply and other considerations allowing). It is required on dives to 30 metres/100 feet or greater, and those coming within three pressure groups of the no decompression limit.

Surface Interval (SI) — the time spent on the surface between two dives. It is usually recorded in hours:minutes (3:25 – 3 hours, 25 minutes).

Total Bottom Time (TBT) — the sum of Residual Nitrogen Time and Actual Bottom Time of a repetitive dive used on Table 1 of the RDP Table to determine the pressure group following the repetitive dive. (You don't use TBT with the eRDP_{ML}, because the eRDP_{ML} does the addition and displays the new pressure group automatically.)

Section 5



Dive Planning:

- Single Depth and Multilevel
- Minimum Surface Interval Planning
- Maximum Depth Planning

- ▷ Plan multilevel dives for maximum no stop dive time
- ▷ Reduce potential for errors or miscalculation
- ▷ Splash resistant cover for protection around water or on dive boats
- ▷ References to table guidelines
- ▷ Metric or Imperial formats
- ▷ Convenient planner and backup for your dive computer
- ▷ Recommended for all PADI courses

