

dBASE dB400 Heart Rate Monitor

1.0 INTRODUCTION

Congratulations on your purchase of the dBASE dB400 Heart Rate Monitor. You've taken an important step in developing and sustaining an exercise program! Your Heart Rate Monitor is a motivating tool that can be used with almost any Cardio activity to help you achieve your personal fitness goals. Regular aerobic exercise can improve the quality of your life in so many ways.

Your new Heart Rate Monitor will help you by providing ECG accurate feedback of your exercise intensity that will allow you to modify your workout to achieve the maximum benefit.

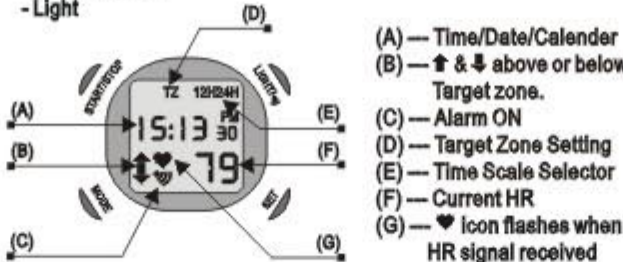
WARNING: NOT A MEDICAL DEVICE

The dBASE dB400 Heart Rate Monitor is a monitoring tool for training and fitness. Before beginning any exercise or fitness program, you should consult a physician. If you use a pacemaker or other implanted electronic device, consult your physician prior to using any heart rate monitor. This heart rate monitor is not a medical device. We make no claims of guaranteed health or fitness benefits from use of this product.

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2.0 FUNCTIONS

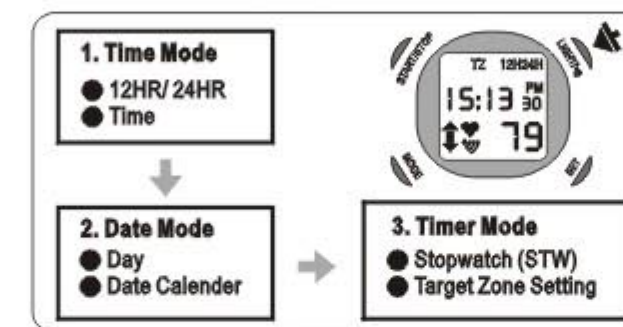
- Heart Rate Display
- Stopwatch
- Target Zone Settings/Alarms
- Time of day
- Date - 12/24 hr
- Light



3.0 BUTTON OPERATION

3.1 BUTTONS

The dBASE dB400 has 4 operating buttons.



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- Mode
- Set
- Start/Stop
- Light

IMPORTANT:

The dBASE dB400 can be worn while swimming, but the keys should not be pressed while the wrist unit is under water. This may allow water to enter the case. Do not submerge the unit more than 10 feet.

3.2 MODE BUTTON

Use the "MODE" button to:

- Toggle between different functions: stopwatch, clock and date.
- To activate the heart rate display. Press the "MODE" key and a ♥ and a zero will appear in the lower portion of the LCD.
- In set-up mode this button toggles between different values being adjusted: i.e.:
 - In clock setup- 12h/24hr to hour to min to sec.
 - In date setup- day to month to date.
 - In stopwatch- Heart Rate Zone (HRZ) set up from upper heart rate zone (UZ) to lower heart rate zone (LZ).

3.3 SET BUTTON

Use the "SET" button to:

- Activate setup modes. Press "MODE" button until the desired screen is displayed and press "SET" to enter set up mode.
 - If the clock is displayed press "SET" button to set the clock.
 - If the date is displayed press "SET" button to set the date.
 - If the stopwatch is displayed press "SET" button to set the Heart Rate Zones (HRZ).

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3.4 START/STOP BUTTON

Use the "START/STOP" button to:

- In stopwatch mode - start, stop and reset the stopwatch.
- In set-up mode - adjust the value being set - i.e.:
 - In clock set up - increase the value of hour/min by one unit.
 - In date set up - increase the value of day, month, date by one unit.
 - In heart rate zone (HRZ)- decrease the upper and lower HRZ limit by one unit.

3.5 LIGHT BUTTON

Use the "LIGHT" button to:

- Turn on the backlight. The light will stay on for approximately 6 seconds.
- Turns on/off HRZ alarm. Note Heart rate mode must be on and the ♥ must be displayed on the lower row of the LCD.
- Note when you turn on the light, the heart rate value will freeze for 4 seconds. This will make it easier to read the display at night.

4.0 PROGRAMMING AND OPERATION

4.1 TIME OF DAY SETTING

To set the time:

- Press the "MODE" button until the clock is displayed.
- Press the "SET" button - '12H' or '24H' will flash in the upper right corner of the display.
- Press the "START/STOP" button to choose between a 12-hour or 24-hour clock.
- Once the desired scale is displayed, press the "MODE" button.

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e) The Hours will flash.

- Press the "START/STOP" button to adjust the hours.
- Once the desired hour is displayed press the "MODE" button and the minutes will flash.
- Press the "START/STOP" button to adjust the minutes.
- Once the desired minutes are displayed press the "MODE" button and the seconds will flash.
- Press the "START/STOP" button to reset the seconds to zero.
- To exit setup at anytime press the "SET" button.

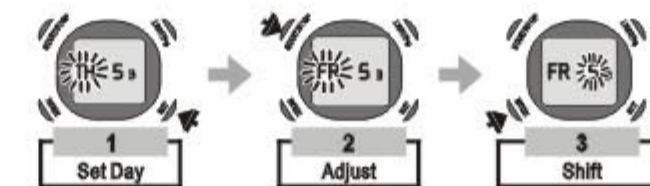


4.2 DATE SETTING

To set the date:

- Press the "MODE" button until the date is displayed.
- Press the "SET" button - the day of the week will flash.
- Press the "START/STOP" button to adjust the day of the week.
- Once the desired day is displayed, press the "MODE" button.
- The MONTH will flash.
- Press the "START/STOP" button to adjust the month.
- Once the desired month is displayed press the "MODE" button and the date will flash.
- Press the "START/STOP" button to adjust the date.
- To exit setup at anytime press the "SET" button.

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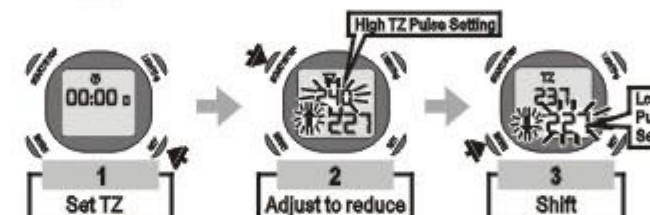


4.3 HEART RATE TRAINING ZONE (TZ) SETTING

To set the Heart Rate Training Zones:

- Press the "MODE" button until the stopwatch is displayed.
- Press the "SET" button - the Upper Training Zone (UZ) will flash.
- Press the "START/STOP" button to decrease the (UZ) by one unit.
- Once the desired value is displayed, press the "MODE" button.
- The Lower Training Zone (LZ) will flash.
- Press the "START/STOP" button to decrease the (LZ) by one unit.
- Once the desired value is displayed press the "MODE" button and the (LZ) will flash.
- To exit setup at anytime press the "SET" button.

Note: You cannot set a lower limit that is greater than or equal to the upper limit.



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4.4 HEART RATE TRAINING ZONES (TZ) ALARM SETTING

To set the Heart Rate Training Zones Alarms:

- Press the "MODE" button. The heart rate function will be activated.
- Press the "LIGHT" key to activate the alarm. The alarm icon (♥) will appear to indicate the Training Zone Alarm is activated. Note when you turn the heart rate alarm on or off, the heart rate value will freeze for 4 seconds.
- An alarm will sound whenever you are above or below your programmed Training heart rate zones.
- An arrow (↑/↓) will also be displayed to indicate whether you are above or below your programmed target heart rate zone.

- ↑♥ - Indicated you are above your HR zone
- ♥ - Indicated you are in your HR zone
- ↓♥ - Indicated you are below your HR zone



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5.0 POSITIONING THE TRANSMITTER BELT

5.1 Moisture Transmitter Contacts

Before wearing the transmitter strap, moisten the 2 rectangular rubber pads (electrodes) located on the inside surface of the chest transmitter. Use water or saliva to moisten these pads.



5.2 Adjusting the Strap

The strap should be worn tight enough to prevent the transmitter from moving or sliding, but not so tight as to be uncomfortable.

5.3 Positioning the Transmitter

The transmitter should be positioned just below the breast or pectoral muscles with the logo centered on the chest, and facing out (with dBASE logo right side up). The transmitter will begin sending a signal as soon as it is worn.



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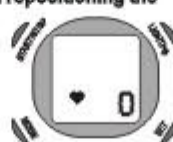
5.4 Wrist Monitor Placement

The wrist monitor is worn on your wrist like a conventional watch (on either your left or right wrist). The watch receives a signal from the chest transmitter. You also have the option of strapping the monitor to your bicycle handlebar or exercise machine. The monitor should be placed within 36" (1 meter) of the transmitter to receive a consistently strong signal. A foam band and Velcro strap are included for mounting the monitor to your bike handlebars.



5.5 Checking for a Signal

To activate the heart rate display, press the MODE key. A ♥ icon and a zero will appear in the lower portion of the LCD. When a signal from the transmitter is detected, the ♥ icon will flash. After a few seconds your heart rate (in beats per minute) will be displayed. If the ♥ icon is not flashing, then no signal is being received. First try applying more moisture to the rubber pads on the back of the transmitter, and repositioning the transmitter until the heart icon begins to flash. Sometimes it is necessary to shift the transmitter to the left, or move it down further on the chest to get a better Transmission signal.



5.6 Avoiding Interference

Your heart rate monitor receives a signal from the transmitter. As with most electronic receiving devices, electrical interference can sometimes cause inaccurate readings. Avoid using your heart rate monitor near common sources of electrical interference. Common sources include high voltage power lines, motors, fluorescent lights, wristwatches, electronic exercise equipment and computers.

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6.0 HEART RATE FUNCTION AND OPERATION

6.1 Heart Rate Function

Press the MODE button to activate the heart rate display.

To activate the heart rate mode, attach the transmitter around your chest as described in PART 5. A heart icon will flash to indicate the receiver is receiving your pulse rate. Your current heart rate will then be displayed. If the heart icon does not flash, and you do not get a readout, repeat the transmitter positioning steps in PART 5. First try applying more moisture to the rubber pads or repositioning the transmitter until the heart icon begins to flash. Sometimes it is necessary to shift the transmitter to the left, or move it down further on the chest to get a better transmission signal.

6.2 HEART RATE TRAINING ZONE OPERATION

To help you create a safe and effective workout, the dBASE dB400 allows you to set your own training zone limits. See section 4.3 for programming Heart Rate Training Zones and section 4.4 Heart Rate Training Zones (TZ) Alarm Settings.

Note: You cannot set a lower limit that is greater than or equal to the upper limit.

6.3 OUT OF ZONE ALERT

During your workout if your heart rate rises above the upper limit value or falls below the lower limit value, an arrow on the display screen will indicate whether your current heart rate is above or below your preset limits. If the audible out-of-zone alarm is activated, the tone will sound continuously for as long as your heart rate is above or below the training zone limits. See section 4.4 Heart Rate Training Zones (TZ) Alarm Settings.

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Turn On Out of Zone Alarm:

Press the light key to activate the alarm. The alarm icon (♥) will appear to indicate the Training Zone Alarm is activated. Note when you turn the heart rate alarm on or off, the heart rate value will freeze for 4 seconds.

An alarm will sound whenever you are above or below your programmed Training heart rate zones.

An arrow (↑/↓) will also be displayed to indicate whether you are above or below your programmed target heart rate zone.

- ↑♥ - Indicated you are above your HR zone
- ♥ - Indicated you are in your HR zone
- ↓♥ - Indicated you are below your HR zone

6.4 STOPWATCH

In the Stopwatch display screen, press the Start/Stop button to Start/Stop the Stopwatch.

To reset the Stopwatch, press and hold the Start/Stop button for 2 seconds.

6.5 SLEEP MODE

If no heart rate signal is received or no buttons are pressed for approximately 5 minutes, the dBASE heart rate monitor will automatically enter sleep mode to prolong battery life. Press the mode button to "wake up" the unit.

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7.0 TROUBLE SHOOTING

7.1 NO HEART RATE DISPLAY:

- Transmitter belt is not positioned correctly or is not sufficiently snug.
- Transmitter is too far from watch (must be within 36" or 1 meter).
- Transmitter belt conductive rubber (against skin) is not moist.
- Too close to electrical interference source (e.g. power lines, exercise equipment).
- Weak or dead transmitter battery.

7.2 DISPLAY IS BLACK:

- Ambient temperature is above proper operating limit (130°F 55°C).

7.3 DISPLAY FADES:

- Weak watch battery — replace battery as soon as possible.

7.4 BATTERY INSTALLATION

The dBASE heart rate monitor is a precision technical instrument. To ensure proper operation and maintain the waterproof seals, we recommend having the wrist unit and transmitter batteries replaced at your local jeweler or watch repair shop. If the O-ring is not correctly positioned when the monitor or transmitter covers are resealed, water leakage may damage the components. Monitor failure due to incorrect replacement of the batteries is not covered under the warranty terms.

The batteries in your heart rate monitor can be expected to last for more than one year under normal use, which is estimated at 20 minutes per day. Your monitor uses 2 Lithium CR2032 batteries, one for the transmitter, and one for the wrist unit. Should your display become faint, or if the monitor only picks up the transmitter signal at a very close distance, it is time to replace the batteries. Always replace both batteries at the same time.

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8.0 DETERMINING TARGET HEART RATE

One of the first steps in using a heart rate monitor is to determine your target heart rate zone. It is always best to consult with your physician first, and it is especially important if you have any history of heart problems. Never use a heart rate monitor if you have a pacemaker without first consulting your physician. Below are some general guidelines for your reference.

8.1 Target Heart Rate Zone

The most common method for calculating your target heart rate is to first find your maximum heart rate. The standard formula to determine maximum heart rate is:

220 - Your Age = Maximum heart rate.

You do not want to workout at your maximum heart rate; you want to workout in your Target Heart Rate Zone. Your Target Heart Rate Zone is a percentage of your maximum heart rate. The American Heart Association recommends working out at a Target Heart Rate Zone of between 60% and 75% of your maximum heart rate. If you are just beginning an exercise program, exercise between 50% and 60% of your maximum heart rate. If you have already been exercising regularly and are looking to improve your performance, you can consider exercising in the athletic Target Heart Rate Zone of 75% to 90% of your maximum heart rate. You may find the chart below helpful for a quick reference.

8.2 TARGET HEART RATE TRAINING ZONE BY AGE & LEVEL

AGE	BEGINNING			AEROBIC			ATHLETIC		
	50%-60% MAX	60%-75% MAX	75%-90% MAX	50%-60% MAX	60%-75% MAX	75%-90% MAX	50%-60% MAX	60%-75% MAX	75%-90% MAX
20	100-120	120-150	150-180						
25	97-117	117-146	146-175						
30	95-114	114-142	142-171						
35	92-111	111-138	138-166						
40	90-108	108-135	135-162						
45	87-105	105-131	131-157						
50	85-102	102-127	127-153						
55	82-99	99-123	123-148						
60	80-96	96-120							
65	77-93	93-116							
70	75-90	90-113							



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