

SAFETY SYSTEMS  
FOR MARITIME  
SURVIVABILITY  
& RESCUE



***Man Overboard Indicator (MOBI)  
Handheld Direction Finder  
(DFP-HH200)***



***Operation and Maintenance Manual***



BriarTek, Inc. Technical Support:  
703.548.7892

Email: [support@briartek.com](mailto:support@briartek.com)

Web: [www.briartek.com](http://www.briartek.com)

©2018 BriarTek. All rights reserved.

# TABLE OF CONTENTS

---

1.0 DFP-HH200 Introduction . . . . .	4
2.0 DFP-HH200 Parts Overview . . . . .	4
3.0 DFP-HH200 Functions . . . . .	5
3.1 Power On/Off . . . . .	5
3.2 Squelch . . . . .	5
3.3 Signal Strength . . . . .	5
4.0 Operation . . . . .	5
4.1 Set Up . . . . .	5
4.2 Use . . . . .	6
5.0 General Guidance for Bridge Watchstanders and Small Boat Personnel . . . . .	7
6.0 DFP-HH200 Maintenance . . . . .	8
6.1 Inspection . . . . .	8
6.2 Testing . . . . .	8
6.3 Troubleshooting . . . . .	9
7.0 Parts List . . . . .	10
8.0 DFP-HH200 Specification . . . . .	11
9.0 Warranty . . . . .	12

## 1.0 DFP-HH200 Introduction

The ORCA® (Overboard Recovery Communications Apparatus) Man Overboard Indicator (MOBI) system is a personal water-activated man overboard alarm system developed by BriarTek Incorporated and utilized by military and commercial industrial mariners worldwide. The DFP-HH200 (p/n: ORCADFP-HH200) is a portable direction finder and is used to assist in the location and recovery of a man overboard (MOB). The DFP-HH200 direction finder (DF) provides the relative bearing to a 121.5 MHz MOB transmission. The DFP-HH200 consists of a display/antenna unit with flexible antenna elements and is powered by 4 AA batteries.

## 2.0 DFP-HH200 Parts Overview

- A – Power On/Off Button
- B – Power On/Off LED
- C – Squelch Increase Button
- D – Squelch Decrease Button
- E – Signal Strength Indicator
- F – Low Battery Indicator
- G – Circular Display Bearing Indicator
- H – Antenna Elements
- I – Housing
- J – Lanyard Attachment Point

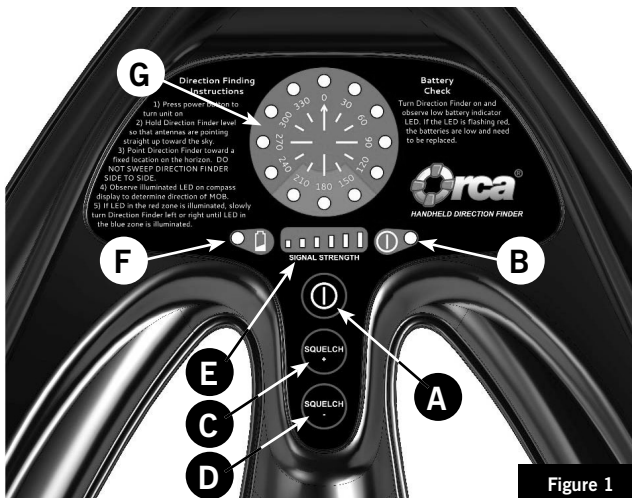
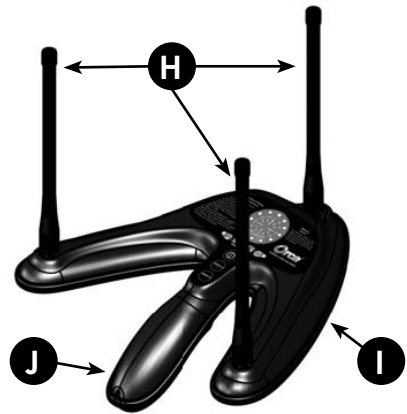


Figure 1

## 3.0 DFP-HH200 Functions

---

### 3.1 Power On/Off

The Power On/Off button (A) provides power to the system and restores default settings. When button is held down for at least one second, the display will perform a system check to determine that the DF is functioning properly. While it is performing this check, all LEDs will illuminate. After the system check is complete, the only remaining illuminated LED will be the Power On LED (B). To turn the direction finder off, hold down Power button (A) for at least one second; all LEDs will extinguish.

### 3.2 Squelch

Squelch is used to filter undesired signals that may be present at or near 121.5 MHz. These signals are typically found in high traffic areas such as shipping channels, airport flight paths, and populated areas. It is also used to reduce interference noise from own ship RF emissions. Increasing squelch will cause a decrease in range of the HHDF. Therefore it is recommended that the squelch be decreased when operating away from high traffic areas in order to maximize system range.

**Changing the squelch level:** Press and hold the “Squelch +” button (C) or the “Squelch –” button (D) to enter squelch mode and increase/decrease the squelch level. While in squelch mode, a squelch value will be displayed on the signal strength indicator (E). Values for squelch are 0-6. Release squelch increase/decrease button when desired squelch level is achieved.

### 3.3 Signal Strength

The signal strength indicator LEDs (E) indicate the received signal strength on a graduated scale from 0 to 6 (0 indicating weak/no signal and 6 indicating strong signal).

**NOTE:** The system returns to the default settings when the DFP HH200 is turned on.

## 4.0 Operation

---

### 4.1 Set Up

- a. Locate the DFP-HH200. The unit is typically stored in a Pelican case or bulkhead-mounted bracket.
- b. Remove the DFP-HH200 from the case/bracket and screw the antenna elements (3) onto the direction finder at the BNC connectors. The antenna elements are stored in the bracket (see figure 2) or in the Pelican case. Grasp the antenna elements at the base of the element, insert onto the BNC mount and turn a  $\frac{1}{4}$  turn until the connector clicks into place.
- c. Energize the DFP-HH200 by pressing the Power On button.



Figure 2

## 4.2 Use

- a. After the DF is energized and ready to receive signal, hold the unit so that it is level and point the DF at a fixed location on the horizon. **DO NOT SWEEP DF SIDE TO SIDE.**
- b. Observe the circular bearing indicator illuminated LED to determine the relative bearing of the MOB transmission.
- c. If the illuminated LED is in the red zone of the circular bearing indicator, slowly rotate the DF to the left or right (see figure 3) until the illuminated LED is in the blue zone.

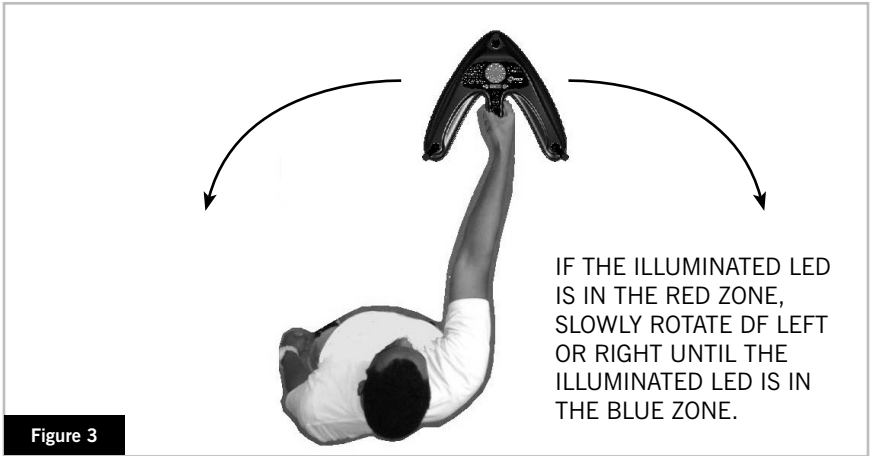


Figure 3

## 5.0 General Guidance for Bridge Watchstanders and Small Boat Personnel

---

a. When the DF receives the MOB signal, the bearing indicator LED on the display will illuminate, indicating the relative bearing to the MOB.

**NOTE:** Bearing indication may be sporadic, depending on weather conditions and sea state. Poor weather, high sea state, and interference from 121.5 MHz emitters (own ship or otherwise) will affect the ability of the DF to receive the signal.

b. When the bearing to the MOB has been determined, steer the vessel toward the MOB by keeping the MOB 10 to 20 degrees off the bow.

c. As the vessel approaches the MOB, establish visual contact and effect recovery of the MOB.

**NOTE:** Recovery team must turn off transmitter to send “All Clear” signal.

d. When the MOB is recovered, ensure recovery team turns off the transmitter. This will cause the transmitter to send “All Clear” signal to the receiver, indicating the MOB has been recovered.

## 6.0 DFP-HH200 Maintenance

---

### 6.1 Inspection

Inspect all components of the DF: housing, antenna elements, bearing indicator faceplate. If any parts are broken, punctured, missing or excessively worn, notify supervisor for component/system replacement.

### 6.2 Testing

#### a. Battery Test

1. Turn on DF at Power On/Off button.
2. Observe low battery indicator LED. If the LED is flashing red, the batteries are low and need to be replaced.
3. Access battery compartment in the DF handle by removing access panel, remove batteries and replace with new AA batteries.
4. Replace access panel.
5. Repeat steps 1 and 2. If the low battery indicator LED does not illuminate, the DF is ready for use.

#### b. Functional Test

**NOTE:** Ensure direct line of sight and a minimum distance of 10 feet between MOBI transmitter and DF.

1. Energize DF.
2. Activate MOBI transmitter.
3. When signal is detected by direction finder, bearing indicator LED will illuminate on display. Ensure illuminated bearing indicator LED correlates with actual bearing. Move transmitter to different bearing and ensure correlation again.
4. Deactivate MOBI transmitter.
5. De-energize DF.



### 6.3 Troubleshooting

Problem	Possible Cause(s)	Solution(s)
System does not turn on.	“Power On” button is not pressed for required amount of time.	Press “Power On” button for at least one second.
	Batteries are drained or not installed.	Install new AA batteries (4).
Display continuously points to the same bearing (not MOBI transmitter).	An emitter from own ship or another ship is radiating at 121.5 MHz.	If possible, energize another DF to determine source of transmission.
Indicator displays errant bearings.	Interference from an emitter other than a MOBI transmitter.	Press the Squelch Increase button.
	Multi-path: if the DF is adjacent to a large object, i.e. bulkhead, the signal from the transmitter may reflect off the surface of the object causing the display to indicate an errant bearing.	Move to another location so signal is not reflecting off object.
	Multiple transmitters are transmitting.	Deactivate transmitters as appropriate.
	Water penetration in the antenna housing.	Replace DF.
System is energized but no bearing indication is displayed.	Squelch setting is too high.	Press Squelch Decrease button.

## 7.0 Parts List

SYSTEM	MOBI	MOBI	MOBI
Subsystem	Handheld Direction Finder	Handheld Direction Finder	Handheld Direction Finder
Part Number	ORCADFP- HH200	ORCADF- FANT1215	ORCADFP- BH100
NSN	5865-01-642- 0851	5985-01-555- 0131	5865-01-643- 7501
Component Description (Nameplate Data)	<b>Handheld Direction Finder:</b> Includes antenna/ display interface, 3 flexible antenna elements, 4 AA alkaline batteries	<b>Antenna element:</b> antenna element, BNC connector tuned to 118-127 MHz	<b>Bracket, Handheld Direction Finder:</b> Bulkhead- mounted bracket for stowing ORCADFP- HH200 handheld direction finder, 316 stainless steel
CAGE Code (BriarTek Inc.)	1FHS1	1FHS1	1FHS1
Mfr	BriarTek	BriarTek	BriarTek



## 9.0 Warranty

---

BriarTek will provide a one-year warranty on the ORCA® MOBI system following the date of original purchase. If a component fails to function properly during its warranty period (one year), the manufacturer will proceed according to its warranty as follows:

BriarTek Inc. guarantees each product it distributes to be free from defective materials and workmanship and agrees to remedy any such defect, or to furnish a new or equal part in exchange (at its option) for a period of one year from the date the component is purchased. For an exchange of the product, please contact BriarTek at 703-548-7892 or on the web at [www.briartek.com](http://www.briartek.com) and a customer service representative will provide the necessary instructions.

This warranty is void if:

- Any component has been subject to misuse or improper installation by a non-BriarTek employee or a non-BriarTek certified technician, or has been repaired or altered by a non-BriarTek employee or a non-BriarTek certified technician.
- Any component fails to function properly after being put into service due to something other than defective materials or workmanship, i.e. excessive temperature, humidity or shock while component is in storage.









[www.briartek.com](http://www.briartek.com)

San Diego, California | Alexandria, Virginia | Indianapolis, Indiana  
Technical Support: 703.548.7892