ARCON Extended Heart Rate Transmitter/Receiver

User's Guide

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The ARCON Extended Heart Rate Transmitter/Receiver is designed to extend the functional range of a Polar or Sensor Dynamics Heart Rate Sensor (chest-worn sensor/transmitter). To operate correctly, it must be used in conjunction with an appropriate model Polar or Sensor Dynamics sensor, and with an ARCON Interface Controller (AIC), as supplied with your ARCON Functional Evaluation System.

Installation:

Your ARCON Extended Heart Rate Transmitter/Receiver is shipped with three components – a transmitter, a receiver, and a standard 9-volt battery. Installation is a simple process. First, connect the plug on the receiver cable to the HR input on the ARCON Interface Controller. If you already have a cable from the standard ARCON HR receiver plugged in, you will have to remove it before connecting the extended receiver. Push the receiver plug all the way in to insure a proper connection. Second, install the battery in the transmitter. To do this, remove the battery cover by sliding it in the direction of the arrow on the case. Connect the battery to the snap-on connector (observe the correct polarity of the snaps and that the snaps are fully engaged). Place the battery in the compartment and make sure that the wires are not protruding from the case. Replace the battery cover by sliding it back over the battery until it snaps back in place.

Testing your transmitter/receiver – the "tap test":

Check that your transmitter/receiver are working properly with the following procedure. Tap firmly on the transmitter case with your finger. Each time you tap, you should observe that the red LED on the transmitter blinks on and off. If the LED does not blink, check the battery connection, and/or replace the battery with a new one. Once you have checked the transmitter, check the receiver as follows. Make sure that the power light is illuminated on your ARCON Interface Controller (i.e. that your ARCON

system is on) and that the receiver is plugged into the HR connector. Now, each time you tap on the transmitter, you should observe that the red LED's on both the transmitter and receiver blink on and off together. This verifies the correct operation of your transmitter/receiver. If the receiver LED does not blink, check that the receiver is plugged in correctly and that the AIC power is on. Contact VerNova Customer Service (see section on service and repair) if you are unable to verify correct operation of your HR system.

Using your Heart Rate transmitter/receiver:

Each time you use your transmitter/receiver, perform a quick "tap test" as described above to verify that they are working properly. Make sure your subject is wearing the Polar or Sensor Dynamics Heart Rate Sensor, and that it has been attached and positioned correctly on the subject's chest. Hold the transmitter near the subject's chest and verify that a heart rate signal is being picked up by observing a regular blinking of the red LED. If the LED does not blink, the Polar or Sensor Dynamics sensor is probably not attached correctly (i.e. making good skin contact).

Now clip the transmitter on the subject's belt or clothing using the attached clip. Position the transmitter so that the subject does not bump it during the performance of the evaluation. Verify that the LED is still blinking in a regular manner, and that the receiver LED is blinking in a similar manner. Your heart rate transmitter and receiver are now working correctly.

The normal operating range of the transmitter/receiver is 25 to 30 feet. In an open area the range may extend to 50 feet, while walls and large metal objects may restrict the range to only 15 feet. You will know that the subject is out of range when the receiver LED stops blinking, while the transmitter LED continues to blink.

Avoid bumping the transmitter during use, as it is sensitive to sharp contact and will transmit an additional "pulse" that may temporarily increase the subject's heart rate reading. A good placement for the transmitter is on the subject's belt or waistband, behind the subject's back. Make sure that the transmitter case is not touching a hard object such as a belt buckle.

Storing your Heart Rate transmitter/receiver:

When you have finished evaluating a subject, store the transmitter in a safe place. You may leave the receiver permanently connected to your AIC. If you will not be using the transmitter for a long period of time (two weeks or more), it is recommended that you remove the battery before storage to prevent battery run-down. Remember to re-install the battery before the next use.

Battery life:

The battery in your transmitter should last two to three months in normal use. Replace the battery if the transmitter fails the "tap test", or if you notice a significantly decreased operating range. Use a good quality 9-volt alkaline battery. Inexpensive "standard" batteries will not last as long, and increase the risk of battery failure and leakage which could damage your transmitter and void the warranty.

Service and repair:

Other than changing the battery, there are no user serviceable components in the ARCON Heart Rate Transmitter or Receiver. If your equipment fails to operate correctly, contact VerNova Customer Service at (800) 532-7266 or (757) 221-8134 for information about service and repair. Any attempt to repair or modify this equipment without authorization will void the warranty and likely void the user's authority to operate this equipment

Limited Product Warranty: VerNova warrants that the hardware products accompanying this documentation shall be free from significant defects in material and workmanship for a period of one year from the date of purchase. This warranty is nontransferable and is limited to the original purchaser. VerNova's entire liability for any breach of warranty shall be the repair or replacement of the hardware. This warranty is void if failure of the hardware has resulted from accident, abuse or misapplication.

FCC Compliance and Advisory Statement: This hardware device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.