

# Rider 100 Reader User's Manual

MARCH 15, 1999

## Notices

### INSTRUCTION TO THE USER

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- \* Reorient or relocate the receiving antenna.
- \* Increase the separation between the equipment and the receiver.
- \* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- \* Consult the dealer or an experienced radio/TV technician for help.

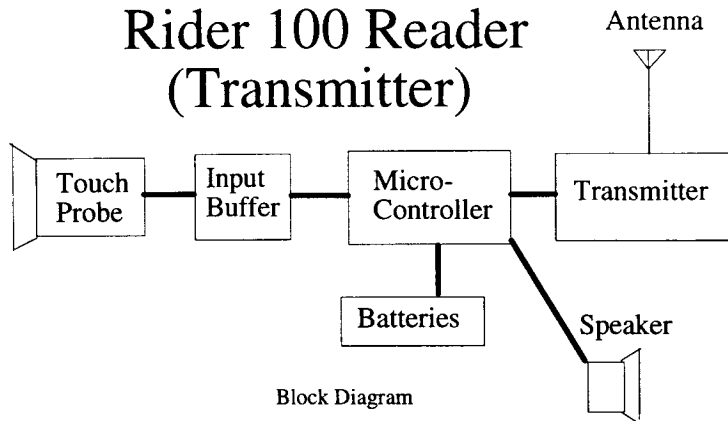
This equipment has been certified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

**NOTE:** Do not submerge or soak this equipment with water or other solutions.

**NOTE:** Since this equipment is designed for low power transmission and reception of data, the radio waves travel by line-of-sight. If there are problems with reception, make sure the antenna of the receiver is visible and within the specified operation distance range.

**NOTE:** This equipment is battery operated. Batteries have a limited lifetime and their consumption varies with the amount of use. As the batteries become used up, their operating voltage decreases, to the point where transmission range and normal operation can become impaired. Replace batteries regularly each month for continued reliable operation.

## Rider 100 Reader (Transmitter)



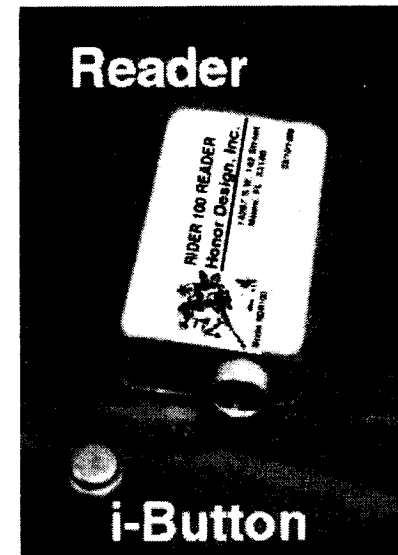
Above is a block diagram of the Rider 100 Reader. The touch probe is placed in contact with the i-Button identification tag to start a read operation. The input buffer isolates the outside signals from the inside electronics.

When an i-Button is touched, the Microcontroller "wakes up" and attempts to read the identification information inside the i-Button. Once the read operation is complete, internal checksums are computed to verify the identification number is correct. If it is correct, the transmitter is turned on and the identification record is output serially through the transmitter.

During the information transmission, an audio tone is present on the speaker alerting that a valid read and transmission have taken place. The transmission and audio tone last for a couple of seconds.

After transmission of the complete data record, the transmitter is turned off and the Microcontroller goes back to sleep.

## OPERATION



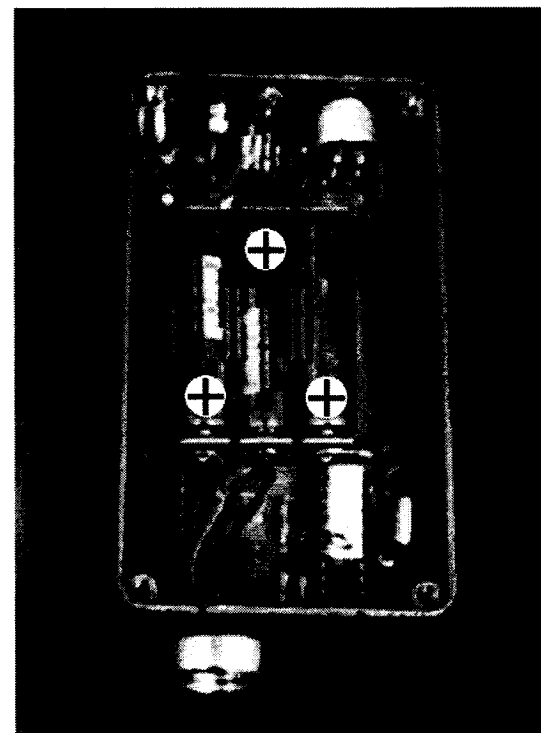
Above is a photo of the Rider 100 Reader and i-Button. The operator carries the reader on a belt holster for convenient access when needed. The reader is 2.25 x 4.25 inches with a small antenna attached. The reader size, shape and weight are similar to a cellular telephone.

The Rider reader is wireless and reads by touching the i-Button. When an i-Button is read, its identification number and the serial number of the reader are transmitted to the receiver. A successful scan is indicated by a small beep located within the handheld reader.

In operation with fueling, the user will pull the fueling hose to the fleet vehicle and place the nozzle into the fill spout on the tank. The user will then touch an i-Button permanently mounted on the fleet vehicle near its fuel tank. Touching the button with the reader probe initiates the read cycle. If the read is successful, the reader will beep indicating a successful scan. The receiver mounted away from the vehicle receives the transmitted code and sends the information to an attached Rider logger. The logger will then open a fueling transaction and valve for fuel delivery. The user then fills the tank on the fleet vehicle while the Rider logger records how many gallons, time with date, and the vehicle identification as a permanent transaction. Once fueling is complete, the transaction and valve are closed and the reader can be used on the next vehicle requiring fuel.

Since the Rider Reader is a wireless device, it is important to remember that information is transmitted from the reader to the receiver. Such devices operate using radio waves which carry along a line of sight. This means that if the reader antenna is covered with a hand or something, the transmission can be reduced or eliminated. A useful story is to imagine that the reader is a light bulb, and it has to shine its light onto the receiver antenna for the transmission to be successful. The useful range of transmission is greater than 100 feet, but shadows and large objects (like walls or metal roofs) can block the radio waves and reduce transmission effectiveness.

## MAINTENANCE



The only user serviceable parts are the batteries. Remove the four screws and open the cover and remove the retaining foam to expose the batteries. Three AAA batteries power the unit. Carefully remove the old batteries by placing a screwdriver under each battery and prying it out of the holder. Replace the batteries with the polarities as shown in the above picture. Place the flat side of the battery into the holder first, then while pushing on the positive "+" end of the battery, press into the holder. After inserting all batteries, replace the retaining foam and the cover. Reinsert all four cover screws and gently tighten, to assure good closure.

The reader should be cleaned with a warm mild soap solution and a soft cloth. DO NOT IMMERSE OR SOAK the unit. Do not get the interior of the reader wet.

Caution: the inside of the reader contains delicate microelectronics and can be damaged by electrostatic charges. When opening the unit, use electrostatic protection and safeguards while handling the unit.

Caution: the electronics of the reader can be damaged by dropping the unit. Even though the design of the reader has tried to make the unit able to withstand everyday wear and tear, dropping the unit can fracture and/or break sensitive components inside of the unit.

## **SPECIFICATIONS:**

Transmit Distance: 100 foot radius

Operation frequency: 418 MHz

Battery Replacement cycle: Replace after 30 days of use

Battery type: AAA (3 used)

Identification badges used: DS 1909

Output Format and speed and transmission type

How to get hold of Honor Design, Inc.

Honor Design, Inc  
14287 S.W. 142 Street  
Miami, FL 33186  
[www.honordesgin.com](http://www.honordesgin.com)

# TROUBLESHOOTING

The Rider Reader Beeps when 1-Button is touched:

No:

Replace the Batteries

Yes:

Check to make sure operating within range of the receiver

Check to make sure nothing is blocking line-of-sight to receiver

Check to make sure nothing is creating large interference to block receiver

Check to make sure Antenna is attached firmly

Check to see if receiver is operating properly

Other than the batteries, there are no user servicable parts on the reader. If none of the suggestions work, please call or contact

Honor Design, Inc

14287 S.W. 142 Street

Miami, FL 33186

305.259.0500