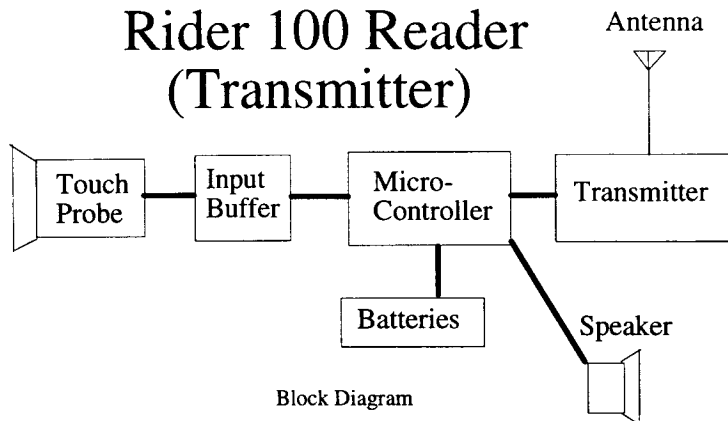


Rider 100 Reader (Transmitter)



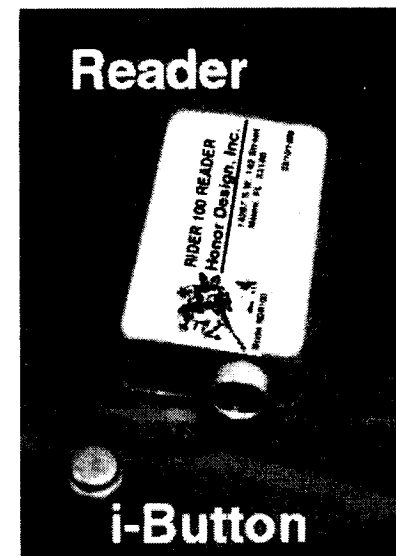
Above is a block diagram of the Rider 100 Reader. The touch probe is placed in contact with the i-Button identification tag to start a read operation. The input buffer isolates the outside signals from the inside electronics.

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.