

## Packet Descriptions:

### Ping

Header	A	[data]	...													
Header	a	[data]	...													

Ping provides a simple confirmation of device operation and communication. Responds with a copy of the data sent.

### Version

Header	B															
Header	b	local_addr	device_type	major_ver	minor_ver											

Version responds with the current software version number.

- local\_addr = RDB device address
- device\_type = RDB device type
- major\_ver = Major version number
- minor\_ver = Minor version number

### Shutup

Header	C															
Header	c															

Shutup stops all scheduled RDB transmission.

### Schedule

Header	E	pkt_time	pkt_dest													
Header	e	pkt_time	pkt_dest													

Schedule defines the interval and destination for sending scheduled 'I' packets.

- pkt\_time = Time interval (1 second steps) between sending 'I' packets
- pkt\_dest = RDB destination address for sending scheduled 'I' packets

### Info

Header	I															
Header	i	name1	cycle1	extra1	volt1	temp1	name2	cycle2	extra2	volt2	temp2	name3	cycle3	extra3	volt3	temp3

Info sends the most recent readings from the battery sensors.

- name = Sensor "name"
- cycle = Sensor cycle counter
- extra<sub>0-4</sub> = Temperature reading (least significant bits)
- extra<sub>6-7</sub> = Voltage reading (least significant bits)
- volt = Voltage reading (most significant bits)
- temp = Temperature reading (most significant bits)

$$\text{Voltage (V)} = \frac{\text{val}}{100} + 7.5V$$

$$\text{Temperature (C)} = \frac{(\text{val} \& 0x0FFF)}{32}, (\text{Negative if MSB} = 1)$$

## Read Configuration

<i>Header</i>	K															
<i>Header</i>	k	wait_time	pulse_width													

Read Configuration responds with the current configuration options.

- wait\_time = Time to wait after issuing a read bit command to ds2436 before sampling bit (around 50)
- pulse\_width = Width of pulse issued to start a read operation (around 2)

## Configuration

<i>Header</i>	L	wait_time	pulse_width													
<i>Header</i>	l	wait_time	pulse_width													

Configuration sets certain configuration options for the system.

- wait\_time = Time to wait after issuing a read bit command to ds2436 before sampling bit (around 50)
- 0: run self-calibration
- pulse\_width = Width of read pulse (around 2)

## Query

<i>Header</i>	Q	addr														
<i>Header</i>	q	addr	val													

Query returns the specified RAM location in the PIC.

- addr = RAM location address
- val = Value at RAM location <addr>

## Reset

<i>Header</i>	R															
<i>Header</i>	r															

Reset resets the battery monitor.

### Write Name

<i>Header</i>	W	name														
<i>Header</i>	w	name														

Write Name assigns a numerical “name” to all three sensors and zeros the cycle counters.  
name = Numerical “name”

### Increment Cycle

<i>Header</i>	X															
<i>Header</i>	x															

Increment Cycle adds one (1) to the cycle counters of all three sensors attached.