Command Table

Command	Brief	Description
0	Reset to ModeZero	Response, 'IDLE' will be written to TX
M	Get Current Mode	Response, “MODE: #”
G	Calibrate Gate	Response, “Cal in-progress” and “Calibrated”
O	Change Max Rounds	Usage “O 25”, response “Max Rounds:##”
F	Minimum Lap Time	Usage “F 20” for 20 seconds. Response, “Timeout:##s”
Q	Query Channel	Turns on the VRX module
C	Change Channel	Usage, “C A3” to change to channel A3
R	Get Total Rounds	Legacy - response “Total Rounds:##”. Multi-player see “Group Control”
T	Get Laptime	Legacy - Usage “T ##” where ## is round number. Response “Round:##,Time:######”. No laps - “No Time Log”. Round out of range - “Round is invalid”. Multi-player see “Group Control”
N	Set Racer Channel	Set “Group Control”
Z	Get Flash Data	See below
B	Get Battery Level	Response "Battery:#.#V ##.#%"
,	Write Gate ADC	Usage “, ####”, response “GATE: ####”
.	Read Gate ADC	Response “GATE: ####”
/	Read RSSI ADC	Response “RSSI: ####”
I	Read ID	Response “AAAAAAbbbbbbb”
o	Set Scaling Factor	Used to calibrate multiple trackers (factor * 10000). Usage, 'o 10000' for factor of 1.0, ‘0 9800’ for 0.98
Y	Set Defaults	Sets all to default values. Note Tracker Name will be set to “no id”. Use
=	Test LEDs	The LED will cycle RGB
Numeric	Racing Modes	1 - Shotgun 2 - Flyby 3 - Gate Color

Flash Command (Z)

Use 'Z' to read flash (NVM) data

Location	Desc	Response (defaults)
0	Channel Number	0: A1
1	Gate Calibration	1: 1000
2	Maximum Rounds	2: 25
6	Lockout Time	6: 10
7	TX Power Level	7: 3
8	RX Gain	8: 1
10	Gate Drivers	10: 120
24	Normalize Drones	24: 10000
25-32	Racer Channel Number	25: A1 26 to 32:FF

GROUP CONTROL

Command	Brief	Description
R	Get Total Rounds	Usage “R 1” - get total rounds completed by Racer 1. Response, “Total Rounds:### P#”
T	Get Laptime	Usage, “T 1 2” - get laptime for round 2 for Racer 1. Response, “R:##,T:##### P#"
N	Set Racer Channel	Usage, “N 1 A1” to set racer1 to A1. Response, “1: A1” If “N” with no parameters, returns number of racers. Response, “Racers: #”

Flash location for Racer Slots

```
flashRacer1,        // 25
flashRacer2,        // 26
flashRacer3,        // 27
flashRacer4,        // 28
flashRacer5,        // 29
flashRacer6,        // 30
flashRacer7,        // 31
flashRacer8,        // 32
```

Use Z to get the Racer Channel

command - "Z 25" for Racer 1

response - "25: C1"

Multiple drone tracking

1) Setup List of 8 Racers

example:

```
N 1 C8      // sets Racer1 to C8
N 2 C6
N 3 C4
N 4 C2
N 5 C1
N 6 FF      // no racers
N 7 FF      // no racers
N 8 FF      // no racers
```

2) Enable VRX module

command = "Q\0"

3) Start Racer

for shotgun, use

command = "1\0"

for flyby, use

command = "2\0"

Getting Laptimes

Method 1 - constant update
- Read for new data
  - Format - "#R#T####,####"
    1) # - Drone Number (1-8)
    2) R# - Round number
    3) T#### - laptime
    4) ,#### - total times

Method 2 - Get missing laptimes
1) Get total rounds
   - Get total rounds for each drone
   - command = "R #" where # is drone number
   - Returns "Total Rounds:##"

2) If list is less than total rounds, add more None placeholders to the list.

3) For each None placeholder, get the laptimes.
   - command = "T # ##"
     - # - drone number
     - ## - round number

   - Response - "Round:##,Time:######"

Method 3 - Get last laptime
1) Get number of laps recorded for current Racer
2) Get Laptime for the next round.
3) If response is not "R:##,T:###### P#" format, then no new lap”
