

## **Connection**

115200 baud, 8 data bits, 1 stop bit, no parity, no handshaking.

## Get Altitude

Read altitude data from ZLog to PC.

Send:

Byte 0	Byte 1
'a'	set #

set# = the desired set to receive (0 – N).

Receive:

Header											
Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	...	...	Byte N-1	Byte N
Sig	Rate msb	Rate lsb	#samples msb	#samples lsb	Trig (on=1, off=0)	Data 0 msb	Data 0 lsb	...	...	Data n msb	Data n lsb

Signature = 0x80

Rate = number of intervals between samples.

#samples = number of data points acquired – note: may be zero if power was lost while recording.

Trig = indicates if camera trigger recording is enabled.

Data = 16-bit signed integer. Units as specified in config. Module may send more than #samples amount of data. Best to receive data until receive times out (250 msec). If word value = 0x8200, this marks a trigger point – read next word for altitude.

## PC Set Config

Write the configuration from the PC to the ZLog.

Send:

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 9	Byte 10	Byte 11	Byte 12	Byte 13	Byte 14
'c'	Sig msb	Sig lsb	Rate msb	Rate lsb	Units	Blank	Interval msb	Interval lsb	cal_m msb	cal_m lsb	cal_b msb	cal_b lsb	Rev	Trig
Byte 15	Byte 16	Byte 17	Byte 18	Byte 19	Byte 20	Byte 21	Byte 22	Byte 23	Byte 24	Byte 25	Byte 26	Byte 27	Byte 28	
startsec msb	startsec lsb	stopsec msb	stopsec lsb	startalt msb	startalt lsb	stopalt msb	stopalt lsb	autostart	autostop	autozero	fill	fill	fill	

Sig = 0xABCD

Rate = number of intervals between samples.

Units = altitude units (0=feet, 1=yards, 2=meters).

Blank = display blanking disable (0) or enable (1).

Interval = small time between samples. unsigned 16-bit integer.

cal\_m = calibration slope value. Q14 format.

cal\_b = calibration offset value. signed 16-bit integer.

Rev = camera trigger signal reverse (1) or normal (0).

Trig = camera trigger recording enable (1) or disable (0).

startsec = number of seconds after powerup before autostart. unsigned 16-bit integer.

stopsec = number of seconds to record before autostop. unsigned 16-bit integer.

startalt = altitude above which to autostart recording. unsigned 16-bit integer. altitude is in the configured units.

stopalt = altitude below which to autostop recording. unsigned 16-bit integer. altitude is in the configured units.

autostart = auto start recording mode. Values are:

AUTO\_START\_OFF = 0

AUTO\_START\_TIME = 1  
AUTO\_START\_ALT = 2  
AUTO\_START\_TRIG = 3

autostop = auto stop recording mode. Values are:

AUTO\_STOP\_OFF = 0  
AUTO\_STOP\_TIME = 1  
AUTO\_STOP\_ALT = 2

autozero = auto zero altitude mode. Values are:

AUTO\_ZERO\_OFF = 0  
AUTO\_ZERO\_TRIG = 1  
AUTO\_ZERO\_PWR = 2  
AUTO\_ZERO\_REC = 3

Receive: none

## Toggle Serial Port Logging

Turns on/off logging altitude data to the serial port.

Send:

Byte 0
'1'

Receive:

none.

ZLog will start sending data every configured sample time. Data format is signed 16-bit integer. Altitude units are as set in the configuration.

## List Data Sets

Send:

Byte 0
's'

Receive:

0,0  
1,1  
2,2  
...  
...  
...  
N,N

For each set, currently just outputs ascii counts. Future may support output of data set size for each set.

## PC Read Config from ZLog

Reads the configuration from the ZLog module.

Send:

Byte 0
'r'

Receive:

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 9	Byte 10	Byte 11	Byte 12	Byte 13
Sig msb	Sig lsb	Rate msb	Rate lsb	Units	Blank	Interval msb	Interval lsb	cal_m msb	cal_m lsb	cal_b msb	cal_b lsb	Rev	Trig
Byte 14	Byte 15	Byte 16	Byte 17	Byte 18	Byte 19	Byte 20	Byte 21	Byte 22	Byte 23	Byte 24	Byte 25	Byte 26	Byte 27
startsec msb	startsec lsb	stopsec msb	stopsec lsb	startalt msb	startalt lsb	stopalt msb	stopalt lsb	autostart	autostop	autozero	fill	fill	fill

Sig = 0xABCD

Rate = number of intervals between samples.

Units = altitude units (0=feet, 1=yards, 2=meters).

Blank = display blanking disable (0) or enable (1).

Interval = small time between samples. unsigned 16-bit integer.

cal\_m = calibration slope value. Q14 format.

cal\_b = calibration offset value. signed 16-bit integer.

Rev = camera trigger signal reverse (1) or normal (0).

Trig = camera trigger recording enable (1) or disable (0).

startsec = number of seconds after powerup before autostart. unsigned 16-bit integer.

stopsec = number of seconds to record before autostop. unsigned 16-bit integer.

startalt = altitude above which to autostart recording. unsigned 16-bit integer. altitude is in the configured units.

stopalt = altitude below which to autostop recording. unsigned 16-bit integer. altitude is in the configured units.

autostart = auto start recording mode. Values are:

- AUTO\_START\_OFF = 0
- AUTO\_START\_TIME = 1
- AUTO\_START\_ALT = 2
- AUTO\_START\_TRIG = 3

autostop = auto stop recording mode. Values are:

- AUTO\_STOP\_OFF = 0
- AUTO\_STOP\_TIME = 1
- AUTO\_STOP\_ALT = 2

autozero = auto zero altitude mode. Values are:

- AUTO\_ZERO\_OFF = 0
- AUTO\_ZERO\_TRIG = 1
- AUTO\_ZERO\_PWR = 2
- AUTO\_ZERO\_REC = 3



## Reset ZLog Module.

Send:

Byte 0
'R'

Receive:

none.

## PC Set Calibrated Altitude

Write the current correct altitude to the ZLog. ZLog will calibrate so that it now reads the correct altitude.

Send:

Byte 0	Byte 1	Byte 2
't'	Altitude msb	Altitude lsb

Altitude = Correct altitude in configured units. signed 16-bit value.

Receive:

none

## Erase All Data.

Erases all altitude data stored in the ZLog memory.

Send:

Byte 0
'X'

Receive:

none

## Request Version Information.

ZLog transmits version information.

Send:

Byte 0
'v'

Receive:

ZLOG  
MOD1  
v1.9  
Apr 14 2004

## Clear Altitude Calibration.

Clear ZLog calibration.

Send:

Byte 0
'\$'

Receive:

none

## Set Configuration to Defaults.

Resets ZLog configuration to factory defaults.

Send:

Byte 0
'*'

Receive:

none