Annotator Communication Protocol

AnnotatorComm v1.2.1

Revision: 272

Table of Contents

The protocol defined within this document applies to the Annotator product line including the Annotator Jr, Annotator I, Annotator II, and Annotator CL. Some commands apply only to some products, firmwares, or revisions as noted. The protocol is primarily master/slave driven, but the slave may send asynchronous messages under some situations. The master does not respond to these messages as they are for information update purposes only.

Terminology and Abbreviations

Communication

STX	Start of transmission
ETX	End of transmission
RX	Receive
TX	Transmit
Msg	Message
Len	Length
Cmd	Command
Chksum	Checksum
Resp	Response
Params	Parameters
USB	Universal Serial Bus
VID	USB Vendor ID
PID	USB Product ID

Data Types

BCD	Binary coded decimal
SB	Straight binary
Int8	Signed 8-bit integer
uInt8	Unsigned 8-bit integer
Int16	Signed 16-bit integer
uInt16	Unsigned 16-bit integer
Int32	Signed 32-bit integer
uInt32	Unsigned 32-bit integer
Int64	Signed 64-bit integer
uInt64	Unsigned 64-bit integer

General

RTC	Realtime clock

Communication Link Parameters

Annotator I/II/CL

RS232/EIA232

Baud	115200
Data bits	8
Parity	None
Stop bits	1
Flow Control	None

Annotator Jr

FTDI RS232/EIA232 over USB

VID	0x0403
PID	0xCE18
Baud	115200
Data bits	8
Parity	None
Stop bits	1
Flow Control	None

Message Syntax

All data is sent in little endian format unless otherwise specifically noted. All unlisted command IDs are reserved for future use. The checksum used in both Command Messages and Response Messages is a simple byte add. Add all the bytes from the message length through the last byte before the checksum as a uInt8, and place that value in the Chksum field of the message.

Command Message

[STX] [Msg Len] [Cmd ID] [Cmd Params] [Chksum] [ETX]

STX	uInt8	0x02 – Start of Transmission
Msg Len	uInt8	Length of the message in bytes
Cmd ID	uInt16	Command ID byte
Cmd Params	variable	Command parameters
Chksum	uInt8	Checksum Msg Len Cmd ID Cmd Param(s)
ETX	uInt8	0x03 – End of Transmission

Response Message

[STX] [Msg Len] [Cmd ID] [Resp] [Status] [Resp Params] [Chksum] [ETX]

STX	uInt8	0x02 – Start of Transmission
Msg Len	uInt8	Length of the message in bytes
Cmd ID	uInt16	Command ID byte
Resp	uInt8	Command Response 0x00 – Success 0x01 – Failed 0x02 – Command not supported
Status	uInt8	Extended failure reason 0x00 – Unspecified 0x01 – Unsupported command 0x02 – Invalid in current configuration 0x03 – Command exceeded transfer buffer size 0x04 – 0x25 – Reserved 0x26 – 0xFF – Command dependent
Resp Params	variable	Response parameters – Command dependent
Chksum	uInt8	Checksum Msg Len Cmd ID Cmd Result Status Param(s)
ETX	uInt8	0x03 – End of Transmission

Data Types

Time Sources

Internal Clock	0x00001
IRIG-A AM	0x00002
IRIG-A Manchester	0x00004
IRIG-A DC	0x00008
IRIG-B AM	0x00010
IRIG-B Manchester	0x00020
IRIG-B DC	0x00040
IRIG-D AM	0x00080
IRIG-D Manchester	0x00100
IRIG-D DC	0x00200
IRIG-E AM	0x00400
IRIG-E Manchester	0x00800
IRIG-E DC	0x01000
IRIG-G AM	0x02000
IRIG-G Manchester	0x04000
IRIG-G DC	0x08000
IRIG-H AM	0x10000
IRIG-H Manchester	0x20000
IRIG-H DC	0x40000
GPS	0x80000

Timestamp Formats

Trigger Timestamp Format

Year	Int16	Year[1]
Day	Int16	Day of Year
Second	Int32	Second of Day
Microsecond	Int32	Microsecond of Second

1 This field may be incomplete depending on the input time source. A four digit year code could become only the last two or even the last one. Ex. 2006 could become 06 or even just 6.

Irig-B Timestamp Format

		Bits							
		7	6	5	4	3	2	1	0
Bytes	0	0	2	1	0	3	2	1	0
	1	1	0	2	1	0	3	2	1
	2	3	2	1	0	1	0	3	2
	3	1	0	1	0	3	2	1	0
	4	1	3	2	1	0	0	3	2
	5	9	8	7	6	5	4	3	2
	6	17	16	15	14	13	12	11	10
	7	6	5	4	3	2	1	0	18
	8	14	13	12	11	10	9	8	7
	9							16	15

- Seconds 1 – BCD
- Seconds 10 – BCD
- Minutes 1 – BCD
- Minutes 10 – BCD
- Hours 1 – BCD
- Hours 10 – BCD
- Days 1 – BCD
- Days 10 – BCD
- Days 100 – BCD
- Years 1 – BCD
- Years 10 – BCD
- Seconds Time of Day – SB
- Control Functions
- Unused

Generic Synchronous Commands

NoOp

Command ID
uInt16 0

Perform a communications NoOp. This is useful for testing the communication link.

Get Device ID

Command ID
uInt16 1

Response Parameter(s)
uInt32 Device ID
0x01 – Annotator Jr
0x02 – Annotator LVDS
0x03 – Annotator FTIR
0x04 – Annotator CL Base
0x05 – Annotator CL Full
0x06 – Annotator CL Full Gps

Get the device's ID.

Get Serial Number

Command ID
uInt16 2

Response Parameter(s)
Int32 Serial number

Get the device's serial number.

Set Serial Number

Command ID
uInt16 3

Response Parameter(s)
Int32 Serial number
Int32 Key

Set the device's serial number. You must have the key to set the serial number. This is for factory use only.

Get Firmware Version

Command ID
uInt16 4

Response Parameter(s)
uInt16 Major version number
uInt16 Minor version number
uInt16 Micro version number
uInt16 Nano version number (used for custom firmwares)

Get the device's firmware version.

Get Firmware Time Stamp

Command ID
uInt16 5

Response Parameter(s)
variable Version timestamp string

Get the device's firmware build time stamp.

Get Device Name

Command ID
uInt16 6

Response Parameter(s)
variable Name string

Get the device's name (max 32 characters).

Set Device Name

Command ID
uInt16 7

Response Parameter(s)
variable Name string

Set the device's name (max 32 characters).

Get Supported Time Sources

Command ID
uInt16 8

Response Parameter(s)
uInt64 0x0

Get the supported time sources is not yet implemented.

Get Current Time Source

Command ID
uInt16 9

Command Parameter(s)
uInt64 Time Source

Get the time source in use is not yet implemented.

Set Current Time Source

Command ID
uInt16 10

Command Parameter(s)
uInt64 Time Source

Set the time source to use is not yet implemented.

Get Current Time

Command ID
uInt16 11

Response Parameter(s)
uInt16 Year
uInt16 Day of Year
uInt32 Second of Day
uInt32 Microsecond

Get the current time.

Set Current Time

Command ID
uInt16 12

Command Parameter(s)
uInt16 Year
uInt16 Day of Year
uInt32 Second of Day
uInt32 Microsecond

Set the current time.

Get Time Source Lock Status

Command ID
uInt16 13

Response Parameter(s)
uInt8 Lock status
0x00 Not Locked
0x01 Locked

Get the Annotator's time source lock status.
To check the lock status without a command, check bit 14 in the year field of the digital annotation acquired with your frame grabber.

Get Time Source Timestamp Mode

Command ID
uInt16 14

Response Parameter(s)
uInt8 Free running mode
0x00 Enable
0x01 Disable

Get the time source timestamps mode.

Set Time Source Timestamp Mode

Command ID
uInt16 15

Command Parameter(s)
uInt8 Time source timestamp mode
0x00 Enable
0x01 Disable

Enable or disable time source timestamps mode. If enabled, a timestamp corresponding to the time stamp source is sent back.

Save Options

Command ID
uInt16 16

Save current options as the default to flash memory. When the device is reset, the options will be restored from flash. Device name and other options specially marked are not affected by this command.

Generic Asynchronous Commands

Text Message

Command ID
uInt16 100

Response Parameter(s)
variable Text

This is a special command only sent from the Annotator to the controlling PC containing a text message, typically for debugging purposes.

Irig-A Time Source Timestamp

Command ID
uInt16 101

Response Parameter(s)
TDB Irig-A Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an Irig-A time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

Irig-B Time Source Timestamp

Command ID
uInt16 102

Response Parameter(s)
10 bytes Irig-B Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an Irig-B time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

Irig-D Time Source Timestamp

Command ID
uInt16 103

Response Parameter(s)
TDB Irig-D Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an Irig-D time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

Irig-E Time Source Timestamp

Command ID
uInt16 104

Response Parameter(s)
TDB Irig-E Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an Irig-E time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

Irig-G Time Source Timestamp

Command ID
uInt16 105

Response Parameter(s)
TDB Irig-G Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an Irig-G time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

Irig-H Time Source Timestamp

Command ID
uInt16 106

Response Parameter(s)
TDB Irig-H Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an Irig-H time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

GPS Time Source Timestamp

Command ID
uInt16 107

Response Parameter(s)
TDB GPS Timestamp

This is a special command only sent from the Annotator to the controlling PC containing an GPS time source timestamp when the time is successfully decoded and time source timestamp mode is enabled.

Annotator Jr Synchronous Commands

Get Trigger Mode

Command ID
uInt16 200

Response Parameter(s)
uInt16 Trigger Mode
0x01 TTL on rising edge
0x02 TTL on falling edge
0x03 LVTTL on rising edge
0x04 LVTTL on falling edge
0x05 Switch closure
0x06 Switch opening

Get the event trigger mode.

Set Trigger Mode

Command ID
uInt16 201

Command Parameter(s)
uInt16 Trigger Mode
0x01 TTL on rising edge
0x02 TTL on falling edge
0x03 LVTTL on rising edge
0x04 LVTTL on falling edge
0x05 Switch closure
0x06 Switch opening

Set the event trigger mode.

Get Timestamp Destination

Command ID
uInt16 202

Response Parameter(s)
uInt8 Time Tag Destination
0x01 RAM
0x02 Flash Memory
0x03 Communication Link

Get the timestamp storage destination.

Set Timestamp Destination

Command ID
uInt16 203

Command Parameter(s)
uInt8 Time Tag Destination
0x01 RAM
0x02 Flash Memory
0x03 Communication Link

Set the timestamp storage destination. Selecting a new destination does not clear the previous destination's timestamps.

Get Timestamp Count

Command ID
uInt16 204

Response Parameter(s)
Int32 Number of timestamps

Get the number of timestamps stored in the currently selected destination.

Get Timestamps

Command ID
uInt16 205

Command Parameter(s)
Int32 First time tag index (0 origin indexed)
Int32 Last time tag index (0 origin indexed)

Response Parameter(s)
variable Requested trigger timestamps

Get the requested timestamps from the current storage destination. There is a maximum number of transferable time tags at one time of ten.

Clear Timestamps

Command ID
uInt16 206

Clear all timestamps stored in the current storage destination.

Set RTC Calibration Mode

Command ID
uInt16 207

Command Parameter(s)
uInt8 Enabled/disabled flag
0x00 Disabled
0x01 Enabled

Enter and exit RTC calibration mode. This command is not affect by the Save Options command.

Get RTC Calibration

Command ID
uInt16 208

Response Parameter(s)
uInt16 RTC calibration value (0-4095)

Get the RTC calibration value. This value adjusts the oscillator driving the RTC.

Set RTC Calibration

Command ID
uInt16 209

Command Parameter(s)
uInt16 RTC calibration value (0-4095)

Set the RTC calibration value. This value adjusts the oscillator driving the RTC. This command is not affect by the Save Options command. See Save RTC Calibration command instead.

Save RTC Calibration

Command ID
uInt16 210

Save the RTC calibration value to flash. This value will be reloaded on the Annotator Jr's next power up.

Annotator Jr Asynchronous Commands

Trigger Time Stamp

Command ID
uInt16 299

Response Parameter(s)
12 bytes Trigger Timetamp

This is a special command only sent from the Annotator Jr to the controlling PC containing a trigger time stamp.

Annotator I Synchronous Commands

Get FPGA Firmware Version

Command ID
uInt16 300

Response Parameter(s)
uInt16 Major version number
uInt16 Minor version number
uInt16 Micro version number
uInt16 Nano version number (used for custom firmwares)

Get the device's FPGA firmware version.

Reset FPGA

Command ID
uInt16 301

Reset the FPGA.

Reset FTS

Command ID
uInt16 302

Reset the FTS controller.

Reset Scan Counter

Command ID
uInt16 303

Reset the scan counter to zero.

Get Preamp Gain Mode

Command ID
uInt16 304

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B

Response Parameter(s)
uInt8 Gain Mode
0x00 Manual
0x01 Automatic

Get the preamp gain mode.

Set Preamp Gain Mode

Command ID
uInt16 305

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B
uInt8 Gain Mode
0x00 Manual
0x01 Automatic

Set the preamp gain mode between manual and automatic.

Get Preamp Gain Level

Command ID
uInt16 306

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B

Response Parameter(s)
uInt8 Gain multiplier level

Get the preamp gain level.

Set Preamp Gain Level

Command ID
uInt16 307

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B
uInt8 Gain multiplier level

Set the preamp gain level. This is only effective when in manual gain mode.

Get TimestampTrigger Mode

Command ID
uInt16 308

Response Parameter(s)
uInt8 Time tagging trigger mode
0x00 Rising edge of Sample Window
0x01 Falling edge of Sample Window
0x02 Rising edge of ZPD

Get the time tagging trigger in use.

Set Timestamp Trigger Mode

Command ID
uInt16 309

Command Parameter(s)
uInt16 Time tagging trigger mode
0x00 Rising edge of Sample Window
0x01 Falling edge of Sample Window
0x02 Rising edge of ZPD

Set the time tagging trigger to use.

Annotator II Synchronous Commands

Get FPGA Firmware Version

Command ID
uInt16 400

Response Parameter(s)
uInt16 Major version number
uInt16 Minor version number
uInt16 Micro version number
uInt16 Nano version number (used for custom firmwares)

Get the device's FPGA firmware version.

Reset FPGA

Command ID
uInt16 401

Reset the FPGA.

Reset FTS

Command ID
uInt16 402

Reset the FTS controller.

Reset Scan Counter

Command ID
uInt16 403

Reset the scan counter to zero.

Get Preamp Gain Mode

Command ID
uInt16 404

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B

Response Parameter(s)
uInt8 Gain Mode
0x00 Manual
0x01 Automatic

Get the preamp gain mode.

Set Preamp Gain Mode

Command ID
uInt16 405

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B
uInt8 Gain Mode
0x00 Manual
0x01 Automatic

Set the preamp gain mode between manual and automatic.

Get Preamp Gain Level

Command ID
uInt16 406

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B

Response Parameter(s)
uInt8 Gain multiplier level

Get the preamp gain level.

Set Preamp Gain Level

Command ID
uInt16 407

Command Parameter(s)
uInt8 Channel
0x00 Channel A
0x01 Channel B
uInt8 Gain multiplier level

Set the preamp gain level. This is only effective when in manual gain mode.

Get TimestampTrigger Mode

Command ID
uInt16 408

Response Parameter(s)
uInt8 Time tagging trigger mode
0x00 Rising edge of Sample Window
0x01 Falling edge of Sample Window
0x02 Rising edge of ZPD

Get the time tagging trigger in use.

Set Timestamp Trigger Mode

Command ID
uInt16 409

Command Parameter(s)
uInt16 Time tagging trigger mode
0x00 Rising edge of Sample Window
0x01 Falling edge of Sample Window
0x02 Rising edge of ZPD

Set the time tagging trigger to use.

Get Detector IDs

Command ID
uInt16 410

Command Parameter(s)
uInt16 Four 4-bit detector IDs

Get the detector IDs.

Annotator CL Synchronous Commands

Get FPGA Firmware Version

Command ID
uInt16 500

Response Parameter(s)
uInt16 Major version number
uInt16 Minor version number
uInt16 Micro version number
uInt16 Nano version number (used for custom firmwares)

Get the device's FPGA firmware version.

Reset FPGA

Command ID
uInt16 501

Reset the FPGA.

Get Frame Width

Command ID
uInt16 502

Response Parameter(s)
uInt32 Frame width (pixels)

Get the frame width.

Get Frame Height

Command ID
uInt16 503

Response Parameter(s)
uInt32 Frame height (pixels)

Get the frame height.

Get Frame Period

Command ID
uInt16 504

Response Parameter(s)
uInt32 Frame period (microseconds)

Get the frame period.

Get Breakout Sync 1

Command ID
uInt16 505

Response Parameter(s)
uInt8 Sync mode

Get the breakout Sync 1 mode.

Get Breakout Sync 2

Command ID
uInt16 506

Response Parameter(s)
uInt8 Sync mode

Get the breakout Sync 2 mode.

Get Breakout Sync 3

Command ID
uInt16 553

Response Parameter(s)
uInt8 Sync mode

Get the breakout Sync 3 mode.

Set Breakout Sync 1

Command ID
uInt16 507

Command Parameter(s)
uInt8 Sync mode

Get the breakout Sync 1 mode.

Set Breakout Sync 2

Command ID
uInt16 508

Command Parameter(s)
uInt8 Sync mode

Get the breakout Sync 2 mode.

Set Breakout Sync 3

Command ID
uInt16 554

Command Parameter(s)
uInt8 Sync mode

Get the breakout Sync 3 mode.

Reset Frame Counter

Command ID
uInt16 509

Reset the frame counter.

Get Trigger Mode

Command ID
uInt16 510

Response Parameter(s)
uInt8 Trigger mode

Get the timestamp trigger mode.

Set Trigger Mode

Command ID
uInt16 511

Command Parameter(s)
uInt8 Trigger mode

Set the timestamp trigger mode.

Get Trigger Line Number

Command ID
uInt16 512

Response Parameter(s)
uInt16 Line number (0-8191)

Get the timestamp trigger line number.

Set Trigger Line Number

Command ID
uInt16 513

Command Parameter(s)
uInt16 Line number (0-8191)

Set the timestamp trigger line number. (Only applicable if trigger is in line mode.)

Get Digital Annotation Offsets

Command ID
uInt16 514

Response Parameter(s)
uInt16 X offset (pixels)
uInt16 Y offset (pixels)

Get the digital annotation offsets within the image data.

Set Digital Annotation Offsets

Command ID
uInt16 515

Command Parameter(s)
uInt16 X offset
uInt16 Y offset

Set the digital annotation offsets within the image data.

Get Text Annotation Offsets

Command ID
uInt16 516

Response Parameter(s)
uInt16 X offset (pixels)
uInt16 Y offset (pixels)

Get the text annotation offsets within the image data.

Set Text Annotation Offsets

Command ID
uInt16 517

Command Parameter(s)
uInt16 X offset
uInt16 Y offset

Set the text annotation offsets within the image data.

Get Text Overlay Background

Command ID
uInt16 518

Response Parameter(s)
uInt32 Text overlay background color

Get the text overlay background color.

Set Text Overlay Background

Command ID
uInt16 519

Command Parameter(s)
uInt32 Text overlay background color

Set the text overlay background color.

Get Text Overlay Foreground

Command ID
uInt16 520

Response Parameter(s)
uInt32 Text overlay foreground color

Get the text overlay foreground color.

Set Text Overlay Foreground

Command ID
uInt16 521

Command Parameter(s)
uInt32 Text overlay Foreground color

Set the text overlay foreground color.

Get Digital Annotation Enable

Command ID
uInt16 522

Response Parameter(s)
uInt8 Digital annotation enable status

Get the digital annotation enable status.

Set Digital Annotation Enable

Command ID
uInt16 523

Command Parameter(s)
uInt8 Digital annotation enable status

Set the digital annotation enable status.

Get Text Overlay Enable

Command ID
uInt16 524

Response Parameter(s)
uInt8 Text overlay enable status

Get the text overlay enable status.

Set Text Overlay Enable

Command ID
uInt16 525

Command Parameter(s)
uInt8 Text overlay enable status

Set the text overlay enable status.

Get Text Overlay Mode

Command ID
uInt16 526

Response Parameter(s)
uInt16 Text overlay mode

Get the text overlay mode.

Set Text Overlay Mode

Command ID
uInt16 527

Command Parameter(s)
uInt16 Text overlay mode

Set the text overlay mode.

Get Lines Per Second

Command ID
uInt16 528

Response Parameter(s)
uInt32 Lines per second

Get the number of lines per second.

Get Pixels Per Second

Command ID
uInt16 529

Response Parameter(s)
uInt32 Pixels per second

Get the number of pixels per second.

Get Remote Start Time

Command ID
uInt16 530

Response Parameter(s)
uInt16 Day of the year
uInt32 Second of the day
uInt32 Microsecond of the second

Get the remote start/stop time.

Set Remote Start Time

Command ID
uInt16 531

Command Parameter(s)
uInt16 Day of the year
uInt32 Second of the day
uInt32 Microsecond of the second

Set the remote start/stop time.

Get Remote Start Source

Command ID
uInt16 532

Response Parameter(s)
uInt8 Source
0x00 – GUI Start/Stop
0x01 – TTL Rising Edge
0x02 – TTL Falling Edge
0x03 – LVTTL Rising Edge
0x04 – LVTTL Falling Edge
0x05 – Switch Closure
0x06 – Switch Opening

Get the remote start source.

Set Remote Start Source

Command ID
uInt16 533

Command Parameter(s)
uInt8 Source
0x00 – GUI Start/Stop
0x01 – TTL Rising Edge
0x02 – TTL Falling Edge
0x03 – LVTTL Rising Edge
0x04 – LVTTL Falling Edge
0x05 – Switch Closure
0x06 – Switch Opening

Set the remote start source.

Get Remote Start Trigger

Command ID
uInt16 534

Response Parameter(s)
uInt8 Trigger
0x00 – Off
0x01 – On

Get the remote start trigger.

Set Remote Start Trigger

Command ID
uInt16 535

Command Parameter(s)
uInt8 Trigger
0x00 – Off
0x01 – On

Set the remote start trigger. This is for use with the remote start GUI source.

Get Remote Start Mode

Command ID
uInt16 536

Response Parameter(s)
uInt8 Mode
0x00 – Use Capture Trigger to signal start/stop
0x01 – CamLink stream starts and stops

Get the remote start mode.

Set Remote Start Mode

Command ID
uInt16 537

Command Parameter(s)
uInt8 Mode
0x00 – Use Capture Trigger to signal start/stop
0x01 – CamLink stream starts and stops

Set the remote start mode.

Get Digital Annotator Byte Order

Command ID
uInt16 538

Response Parameter(s)
uInt8 Mode
0x00 – "HL"
0x01 – "LH"

Get the Digital Annotation Byte Order (16 bit mode only)

Set Digital Annotator Byte Order

Command ID
uInt16 539

Command Parameter(s)
uInt8 Mode
0x00 – "HL"
0x01 – "LH"

Set the Digital Annotation Byte Order (16 bit mode only)

Get Annotation Mode

Command ID
uInt16 542

Command Parameter(s)
uInt8 Mode
0x00 – 8-Bit
0x01 – 16-Bit

Get the Digital Annotation Mode

Set Annotation Mode

Command ID
uInt16 543

Command Parameter(s)
uInt8 Mode
0x00 – 8-Bit
0x01 – 16-Bit

Set the Digital Annotation Mode

Blink LED Transmit

Command ID
uInt16 555

Command Parameter(s)
None

Blinks Green LED once.

Set Time Mode

Command ID
uInt16 556

Command Parameter(s)
uInt8 Mode
0x00 – Use GPS Time
0x01 – Use IRIG Time

Set the mode in which to read time.

Get Time Mode

Command ID
uInt16 557

Response Parameter(s)
uInt8 Mode
0x00 – Use GPS Time
0x01 – Use IRIG Time

Get the time mode.

Get Lat Long

Command ID
uInt16 558

Response Parameter(s)
16 bytes LatLong

Get the Latitude and Longitude. This returns a string of chars similar to:
`N,08620.94536,W,151958.00`

Examples

Blink LEDs

Command Message	02 06 28 02 30 03
Response Message	02 08 28 02 00 00 32 03

NoOp

Command Message	02 06 00 00 06 03
Response Message	02 08 00 00 00 00 08 03

Get Device ID

Command Message	02 06 01 00 07 03
Response Message	02 09 01 00 00 00 06 10 03

Get Firmware Version

Command Message	02 06 04 00 0A 03
Response Message	02 10 04 00 00 00 01 00 02 00 03 00 04 00 1E 03