

EagleEye Tracking Protocol

Protocol name:

EagleEye

Version:

1.0

Parameters

name	start	len	type	order	value	description
header	0	1	uChar	little	0xD1	constant. header byte
posX	1	4	float32	little		offset from studio center in centimeters. an object with higher x value appears further to the right.
posY	5	4	float32	little		offset from studio center in centimeters. an object with higher y value appears further up.
posZ	9	4	float32	little		offset from studio center in centimeters. an object with higher z value appears closer.
rotX	13	4	float32	little		tilt. rotation in degrees [0 .. 359.999..]. a value of 30 makes the camera point upwards by 30 degrees.
rotY	17	4	float32	little		pan. rotation in degrees [0 .. 359.999..]. a value of 345 makes the camera point to the left by 15 degrees.
rotZ	21	4	float32	little		roll. rotation in degrees [0 .. 359.999..]. a value of 20 makes the camera to lean to the right (clockwise) by 20 degrees.
zoom	25	4	int32	little		lens zoom value [0 .. ~65535]
focus	29	4	int32	little		lens focus value [0 .. ~65535]
iris	33	4	float32	little		lens iris value e.g. 2.8
dof	37	4	float32	little		depth of field in centimeters. negative value means everything is in focus. (infinite DOF)
extender	41	1	uChar	little		Lens extender (0 == off. 1 == on)
camType	42	1	uChar	little	0x00	Camera type. ignored for now.
spare1	43	4	float32	little		unused.
spare1	47	4	float32	little		unused.

name	start	len	type	order	value	description
checksum	51	1	uChar	little		checksum function is attached.

SIZE: 52 bytes

Checksum

```
unsigned char checksum = 0x00;
for (int i = 0; i < 51; ++i)
{
    checksum += buffer[i];
}
checksum = (unsigned char)0x40 - checksum;
```

Example

Values

name	value
posX	200.0
posY	100.0
posZ	-300.0
rotX	30.0
rotY	345.0
rotZ	20.0
zoom	1000
focus	1100
iris	1.4
dof	150.0
extender	on

Binary

above values result in the following binary.

```
11010001 00000000 00000000 01001000
01000011 00000000 00000000 11001000
```

```
01000010 00000000 00000000 10010110
11000011 00000000 00000000 11110000
01000001 00000000 10000000 10101100
01000011 00000000 00000000 10100000
01000001 11101000 00000011 00000000
00000000 01001100 00000100 00000000
00000000 00110011 00110011 10110011
00111111 00000000 00000000 00010110
01000011 00000001 00000000 00000000
00000000 00000000 00000000 00000000
00000000 00000000 00000000 00010011
```

Axis

