

1 Document History

Version	Date	Comment
1.0.0	October 25, 2023	Initial version
1.0.1	November 2, 2023	Updated behavior for Smartbeam

2 Description

In addition to DMX sent via Art-Net or sACN, zactrack allows actors, fixtures and the show to be controlled using the OSC protocol ([OSC 1.0 specification](#)).

The zactrack server listens for OSC messages on the designated port (default 8000). Messages need to be sent via UDP and have a specific format, as listed in the following sections.

Note: This functionality is only supported for zactrack server versions 3.23.0.0 and above!

2.1 OSC Argument Types

Depending on the type of control, OSC message arguments have to be of a certain type and value range. Accepted argument types are Float (f) and Integer (i).

Parameter Type	Unit
Physical parameters, e.g. height	Meters (Float)
Percentage, e.g. crossfade	0..1 (Float)
Modes, e.g. merge mode	Fixed value set (Integer)

2.2 OSC Address String

The zactrack server listens to OSC messages with an address string beginning with the identifier **/zactrack**

The remaining address string contains the type of the controlled object, an object ID (if applicable) and the name of the controlled parameter.

Examples:

- **/zactrack/actor/3/height**: set the height of actor 3
- **/zactrack/fixture/10/assignment**: assign an actor to fixture 10
- **/zactrack/show/terrain**: set the active terrain for the current show

2.3 Control Behavior

When controlling via OSC, the last received parameter value is kept until either a new OSC message is received, a show upload, manual override from the client application, or a server restart. The zactrack server only accepts single OSC messages. Bundles are not supported.

3 OSC Definitions

3.1 Actor

Actors can be controlled by using the following messages. The actor ID corresponds to the DMX ID (1..255)

Control	OSC Address	Type	Min	Max	Description
Height	/zactrack/actor/<actorID>/height	f	pre-defined	pre-defined	Absolute meters. Limits are defined in the Actor settings sections in the System Settings dialog. Values outside the limits will be clamped
Smartbeam	/zactrack/actor/<actorID>/smartbeam	f	pre-defined	pre-defined	Absolute meters. Limits are defined in the Actor settings sections in the System Settings dialog. Values outside the limits will be clamped Value 0 disables smartbeam
Mode	/zactrack/actor/<actorID>/mode	i	1	4	1: Active 2: Force 2D 3: Dimmer Off 4: Inactive Any other value counts as "Active"
Preset	/zactrack/actor/<actorID>/preset	i	1	3	1: Slow 2: Medium 3: Fast Values below 1 count as "Slow", values above 3 count as "Fast"
Freeze	/zactrack/actor/<actorID>/freeze	f	0.0	1.0	Percentage 0..1 1 means full freeze

Examples:

- **/zactrack/actor/3/height 1.5**: set the height of Actor 3 to 1.5 meters above the origin
- **/zactrack/actor/5/preset 2**: set the preset of Actor 5 to "Medium"

3.2 Fixture

Fixtures can be controlled by using the following messages. The fixture ID corresponds to the ID as shown in the dialog.

Control	OSC String	Type	Min	Max	Description
Assignment	/zactrack/fixture/<fix.ID>/assignment	i	0	255	0..255 corresponding to the desired actor 0: No assignment 255: XYZ Origin Values outside the range will be clamped
Transition	/zactrack/fixture/<fix.ID>/transition	f	0.0	25.5	0..25.5 seconds Values outside the range will be clamped
Merge Mode	/zactrack/fixture/<fix.ID>/mode	i	1	4	1: Tablet 2: Auto-2 3: Auto-6 4: Auto-6M Values below 1 count as "Tablet", values above 4 count as "Auto-6m"
Crossfade	/zactrack/fixture/<fix.ID>/crossfade	f	0.0	1.0	Percentage 0..1 0 means full console control 1 means full zactrack control
Offset	/zactrack/fixture/<fix.ID>/offsetx /zactrack/fixture/<fix.ID>/offsety /zactrack/fixture/<fix.ID>/offsetz	f	-32.767	32.767	Absolute meters. Values outside the range will be clamped

Examples:

- **/zactrack/fixture/8/assignment 6:** Assign Actor 6 to Fixture 8
- **/zactrack/fixture/26/crossfade 0.80:** Target P/T position for Fixture 26 is 80% zactrack, 20% console input
- **/zactrack/fixture/28/offsetx 10.35:** Fixture 28's target position X-value is changed by +10.35 meters

3.3 Show

Scenes and terrains can be controlled by using the following messages.

Control	OSC String	Type	Min	Max	Description
Scene	/zactrack/show/scene	i	0	255	Desired scene
Terrain	/zactrack/show/terrain	i	0	255	Desired terrain

Examples:

- **/zactrack/show/scene 2:** Switch to scene 2