

tangent

OSC Quick Start guide

OSC messages can be triggered from any control on any panel.

First, you need to create an empty map and associate it with your application e.g. Unreal Engine.

To do this open the **Tangent Mapper** and select **File > New Control Map...** and complete the wizard.

Once finished, click on any control in the Mapper window to choose the function.

Terms used:

- **Encoders** refer to knobs, dials, trackerballs or trackerball rings.
- **Parameters** are functions which can be mapped to Encoders.
- **Actions** are functions which can be mapped to Buttons.

Standard Mapping

OSC Command

OSC Server Port: 8003

OSC String Identifier: /light

Display Label: Light

Display Type: Number

OSC Value Format: Integer

Min: 0 Max: 10

Step: 1 (Used for display and sensitivity)

Knob Sensitivity: Global:

fine medium coarse

Reverse Knob Direction:

When adding an OSC mapping you need to:

- Set **OSC Command** as the control type.
- Set an **OSC Server Port** number to send to. Messages are always sent to LocalHost. The same port number will be used for all OSC Messages in the same map.
- Set the **OSC String Identifier** which will be used as the OSC message Address.
- Set the **Display Label** to be shown on the panel displays.
- Set the **Display Type** to be shown on the panel displays.
- Set the **OSC Value Format** to be **Integer / Float** for Parameters or **Integer/ Float / String** for Actions
- For Parameters you must also set the **Min, Max** and **Step** size.

NOTE: As with all mappings, it is recommended that the Standard and Alternate mappings are set to be the same unless there is good reason not to. The parameter sensitivities for Std and Alt will then follow the Global settings chosen in the Mapping Settings (**File > Control Map Settings...**).

To do this, click the **Link** icon in the Control Mapping Window:



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Control movement OSC messages (Application -> Hub)

Parameter Change & Reset messages (Hub -> Application)

- Parameter OSC messages are sent approx. every 30mS when an encoder is being turned quickly enough. Less often when turning slowly. The **Knob Sensitivity** slider determines how many revolutions of the encoder will reach full range.
- When an encoder changes, a positive value will be sent for a clockwise rotation and negative for anticlockwise. This behaviour can be reversed by checking the **Reverse Knob Direction** box.
- When the reset button associated with any encoder is pressed a change value of zero will be sent to indicate this.

Action messages (Hub -> Application)

- Action OSC messages are sent when a button is pressed or released.
- On press, a value of **1** is sent for Integer or Float Value Formats and the text **On** for String Format.
- On release, a value of **0** is sent for Integer or Float Value Formats and the text **Off** for String Format.

Display write OSC messages (Application -> Hub)

An application can send messages to the panels which will cause display values or status text to be shown. The **OSC String Identifier** is matched with the message address determine which display to write to.

NOTE: a random return port will be chosen when the application makes first contact with the OSC Server so you should interrogate the client socket to determine the return port number to use.

Parameter OSC messages (Application -> Hub)

This should be useful to display the value of Parameters as they change.

- The same **OSC Value Format** must be used when returning values to display.
- If the **Display Type** is set to **Number** then the value will be displayed as received.
- If the **Display Type** is set to **Percentage** then the Min and Max values will be used to calculate the value to display.
- If the **Display Type** is set to **Bar** then the Min and Max values will be used to calculate the value to display in Bar Graph format.

Action OSC messages (Application -> Hub)

This should be useful to indicate the state of toggle type Boolean variables or the Menu state for variables which have multiple options.

- If the **OSC Value Format** received is an **Integer** or a **Float** then the string **“Off”** will be shown for a value of zero.
- If the **OSC Value Format** received is an **Integer** or a **Float** then the string **“On”** will be shown for any non-zero value.
- If the **OSC Value Format** received is a **String** then the string sent will be shown.