Commands and Actions API

This document provides an overview of the supported Open Sound Control (OSC) commands, as well as the available Events and Actions for integration with third-party hardware and software.

Events can also be sent to the device itself, enabling the creation of custom controls for functions that are not available through the standard user interface.

TMxCore, TouchControl 5, TouchMonitor 5

Version 2.2 (July 2026)

Contents

OSC Listening server

Server

The OSC receive implementation listens to **TCP** and **UDP** packets on **Port 58000**.
Remember to enable OSC Listener (Menu > System > General > OSC Listener).
OSC Listener has 3 options:

- **Off** – does not listen to any messages
- **On** – does listen to all kind of messages from any address
- **Localhost** – does listen to messages only from the device itself

Feedback

When **OSC Feedback** (Menu > System > General > OSC Listener) option is **On**, server responses to every message with an OSC message, except messages coming from Localhost.

- **/status/ok/** with **INT32** argument 0 – if everything is ok
- **/status/error/** with **INT32** argument contains error code
- new state OSC message for the commands which have return messages (see table)
- bundle of OSC messages, when command changes several states

Status codes:

- 0 – no error
- 10 – device is busy
- 11 – operation timeout (100 ms)
- 20 – unknown command
- 21 – preset not found
- 22 – application not found
- 23 – state not found
- 24 – required argument not present
- 25 – invalid message format

Answer for UDP packet is sent back as an UDP packet to the sender address.

Answer for TCP packet is sent back directly in the same connection, before the socket is closed.

Standard

Server supports incoming messages in OSC 1.0 and OSC 1.1 standards. All outgoing messages are OSC 1.0.

Supported incoming messages

The OSC server supports both reading and writing parameters.

If a command is sent with an argument, the specified value is applied and the updated value is returned in the feedback. If the same command is sent without an argument, no changes are made, and the current value is returned in the feedback.

For most commands, the feedback message uses the same structure as the corresponding incoming command. Any exceptions are explicitly noted in this document.

Device

Command	Argument	Arguments' values	Description
/device/phantom	BOOL	TRUE/FALSE	Phantom Power On/Off
/device/phones_gain	FLOAT	-60 to 20 dB	Headphones level
/device/xlr_gain	FLOAT	-8 to +60 dB	XLR gain

Phantom power, headphones and XLR gain commands are supported only by TouchControl 5.

Example:

Command	Argument	Description
/device/phantom	FALSE	**Switches Phantom Power Off**

Preset

Command	Argument	Arguments' values	Description
/preset/recall	INTEGER	n (zero-based: Default preset = 0)	Recall a preset by index
/preset/recall	STRING	Preset Name *(Case Sensitive)*	Recall a preset by its name

Since the INTEGER method identifies presets by their alphabetically ordered position, it can become unreliable if new presets are added to the device, as their positions may change.

Therefore, for maximum reliability, we recommend using the STRING method for preset changes, as it identifies presets by name rather than position.

Feedback messages always use an integer argument containing the zero-based preset index.

All applications

Every application specific command starts with **/{appType}/{appIdx}/** where

{appType} – is an application's type ("metering", "monitoring", "talkback")

{appIdx} – is an application's zero-based index (first application has **appIdx** = 0, the second has **appIdx** = 1)

To apply a command to all the applications of specified type, set **{appIdx}** to "**all"**.
For monitoring application **{appIdx}/** should be omitted, since there can be only one instance of Monitoring.

Routing

For internal routing, an array of integers (INTs) is used. Each element in the array corresponds to one channel of the application. For example, if an application has six inputs (5.1 surround), the array should contain six values.

The value -1 indicates that no source is routed to the corresponding input or output.

Each value specifies the source that is routed to the corresponding application input.

Command	Argument	Arguments' values	Description
/{appType}/{appIdx}/in_routing	INTEGER ARRAY	[0, 1, 2, -1, 4]	Set the application's inputs
/{appType}/{appIdx}/out_routing	INTEGER ARRAY	[0, 1, 2, -1, 4]	Set the application's outputs

The `out_routing` command does not support multi-output routing. Multi-output routing can only be configured using the preset editor.

Important note for TouchControl 5.
Since TouchControl 5 includes physical audio inputs and outputs, these must be taken into consideration when routing the TouchControl 5 with OSC messages.

On TouchControl 5, input index 0 refers to the internal microphone (MIC), while input index 2 refers to the XLR microphone input.

The table below lists the corresponding input indexes:

Inputs	*TouchControl 5*	*TouchMonitor 5*	*TMxCore*
MIC	0	-	-
XLR	2	-	-
AoIP 1-16	4-19	0-15	0-15
AoIP 17-32	16-31	-	16-31
Outputs			
Line Out L	0	-	-
Line Out R	1	-	-
Phones L	2	-	-
Phones R	3	-	-
AoIP 1-16	4-19	0-15	0-15
AoIP 17-32	16-31	-	16-31

Examples:

Command	Argument	Description
/metering/0/in_routing	[-1, -1, 8, 9, 12, 13]	On a **TM5**, first metering application, this example leaves inputs 1 and 2 unrouted, and routes AoIP channels 9, 10, 13, and 14 to inputs 3, 4, 5, and 6, respectively.
/metering/0/in_routing	[-1, -1, 8, 9, 12, 13]	On a **TC5**, first metering application, this example leaves inputs 1 and 2 unrouted, and routes AoIP channels 5, 6, 9, and 10 to inputs 3, 4, 5, and 6, respectively.
/monitoring/in_routing	[4, 5, 0]	On a **TC5**, monitoring with 1 stereo input, this example routes AoIP channels 1 and 2 to L and R and the internal MIC to SPL.

Metering applications

Command	Argument	Arguments' values	Description
/metering/{appIdx}/reset	-	-	Reset loudness measurement
/metering /{appIdx}/start	-	-	Start loudness measurement
/metering/{appIdx}/stop	-	-	Stop loudness measurement

The `reset`, `start`, and `stop` commands always return the current loudness running state (`true` or `false`) in the feedback message.

Feedback	Argument	Arguments' values	Description
/metering/{appIdx}/running	BOOL	TRUE/FALSE	Loudness running state

In feedback messages, {appIdx} is always returned as a numeric value. If a command affects more than one application, the corresponding feedback messages are combined into a single OSC bundle.

Examples

Command	Argument	Description
/metering/all/reset	-	**Reset** loudness across **all** applications
/metering/0/start	-	**Start** loudness on the **first** metering application
/metering/1/stop	-	**Stop** loudness on the **second** metering application

Monitoring applications

General

Command	Argument	Arguments' values	Description
/monitoring/volume	FLOAT	0 to 100	Value in dB SPL
/monitoring/reference	-	-	Recall reference volume
/monitoring/dim	BOOL	TRUE/FALSE	Activate/deactivate dim function
/monitoring/mute	BOOL	TRUE/FALSE	Activate/deactivate mute function
/monitoring/phones	BOOL	TRUE/FALSE	Activate/deactivate headphones
/monitoring/input	INTEGER	0 to 3	Select input 1-4
/monitoring/output	INTEGER	0 to 3	Select output 1-4
/monitoring/downmix	BOOL	TRUE/FALSE	Activate/deactivate downmix
/monitoring/surr_att	BOOL	TRUE/FALSE	Activate/deactivate Surr. attenuation
/monitoring/lf_boost	BOOL	TRUE/FALSE	Activate/deactivate LF channel boost
/monitoring/mono	BOOL	TRUE/FALSE	Activate/deactivate mono mode

Examples

Command	Argument	Arguments' values	Description
/monitoring/volume	FLOAT	60	Set level to 60 dB
/monitoring/mute	BOOL	TRUE	Mute speakers
/monitoring/mute	BOOL	FALSE	Un-mute speakers
/monitoring/input	INTEGER	1	Select input 2

Input Controls

Commands for each individual input, where {inputIdx} is the zero-based input index.
All commands start with **/monitoring/in/{inputIdx}**

Command	Argument	Arguments' values	Description
…/trim	FLOAT	-60 to 6 dB	Value in dB
…/mute	BOOL	TRUE/FALSE	Mute the input
…/delay	FLOAT	0 to 200 ms	Value in ms

Example

Command	Argument	Arguments' values	Description
/monitoring/in/1/trim	FLOAT	3	Set input 2's trim to 3dB

Output (Speaker) Controls

Commands for each individual speaker output, where {speakerIdx} is the zero-based speaker index.
All commands start with **/monitoring/out/{outputIdx}/{speakerIdx}**

Command	Argument	Arguments' values	Description
…/level	FLOAT	-24 to +12 dB	Value in dB
…/polarity	BOOL	TRUE/FALSE	Output polarity
…/type	INTEGER	0 to 1	Set speaker type 0 – Full range speaker 1 – Bass managed speaker
…/bm_weighting	FLOAT	-24 to +12 dB	Bass management weighting
…/delay	FLOAT	0 to 200 ms	Value in ms

Example

Command	Argument	Arguments' values	Description
/monitoring/out/1/2/delay	FLOAT	32	On output 2, set the **center** speaker (speaker 3, index 2) delay to 32ms.

Output (Speaker) Controls, EQ

Commands for each individual speaker output EQ, where {bandIdx} is the zero-based EQ band index (0–7).
All commands start with /monitoring/out/{outputIdx}/{speakerIdx}/eq/

Command	Argument	Arguments' values	Description
…/enable	BOOL	TRUE/FALSE	Enable EQ on given channel
…/{bandIdx}/active	BOOL	TRUE/FALSE	Enable a band
…/{bandIdx}/type	INTEGER	0 to 10	Select speaker's filter type 0 Peak filter 1 Low shelf 2 High Shelf 3 Low pass 4 Band pass 5 High pass 6 All pass 2nd order (180 degree phase shift) 7 All pass 4th order (360 degree phase shift) 8 Notch 9 Low pass first order 10 High pass first order
…/{bandIdx}/frequency	FLOAT	1 to 20000 Hz	Corner frequency
…/{bandIdx}/gain	FLOAT	-18 to +18	Filter's gain
…/{bandIdx}/q	FLOAT	0.1 to 10	Filter's Q factor

Example

Command	Argument	Arguments' values	Description
/monitoring/out/1/2/eq/3/type	INTEGER	2	On output 2, set the center speaker (speaker 3, index 2) EQ, band 4 filter type to High Shelf

Talkback applications

Command	Argument	Arguments' values	Description
/talkback/{appIdx}/active	BOOL	TRUE/FALSE	Switch talkback on or off
/talkback/{appIdx}/volume	-	-	Sets the volume of the talkback

Example

Command	Argument	Arguments' values	Description
/talkback/0/active	BOOL	TRUE	Enable talkback in first application

Events' actions (outgoing messages)

For each event, one or more actions can be configured to receive the event's argument.
Supported action types:

- OSC TCP message
- OSC UDP message
- HTTP (GET) message
- GPO line (available only on TMxCore)
- Dante® API (available only on TouchControl5 Dante and TouchMonitor5 Dante)

The tables below list the available events and their original argument types. If required, the argument type can be redefined in the Event Action Editor.

UI Elements

All buttons placed on a screen in the View Editor (Edit Preset > View) can have one or more actions assigned that are executed when the button is pressed.

• Push buttons (for example, Loudness Reset) do not provide an argument.

• Toggle buttons (for example, Monitoring Mute) provide a BOOL argument indicating the button state.

• Switch buttons (for example, Monitoring Input Select) provide an INTEGER argument indicating the selected value.

System events

Event	Argument	Arguments' values	Comment
Preset changed	INTEGER	0 to 31	Recalled preset index
Demo mode changed	BOOL	TRUE/FALSE	Demo mode state
Sample rate changed	INTEGER	44100, 48000, 88200, 96000	
Line detected*	BOOL	TRUE/FALSE	True when connector is inserted
Headphones detected*	BOOL	TRUE/FALSE	
GPI 1 changed**	BOOL	TRUE/FALSE	Logical level on GPI line
GPI 2 changed**	BOOL	TRUE/FALSE	
GPI 3 changed**	BOOL	TRUE/FALSE	
GPI 4 changed**	BOOL	TRUE/FALSE	
GPI 5 changed**	BOOL	TRUE/FALSE	

* – only on TouchControl 5
** – only on TMxCore

Preset events

Event	Argument	Arguments' values	Comment
Preset recalled	-	-	This preset was recalled

Metering application

Event	Argument	Arguments' values	Comment
Loudness started	-	-	
Loudness stopped	-	-	
Loudness reset	-	-	
Dialog detected	BOOL	TRUE/FALSE	
Dialog detector released	BOOL	TRUE/FALSE	
LDR conform	INTEGER	-1 – below (not for LDR and TP) 0 – conform +1 – over (not for SI) -99 – initial state	
Momentary conform			
Short conform			
Integrated conform			
TruePeak conform			
SI conform			
SSA: LFE error	BOOL	TRUE/FALSE	

Monitoring application

The Monitoring application does not define any additional events.

Leveling application

The Leveling application does not define any additional events.

Talkback application

The Talkback application does not define any additional events.

Tools application

The Tools application does not define any additional events.

GPO Actions

Allows the logical level of a GPO port to be changed. This action does not use a message and only requires the zero-based GPO port number (0–4) to be specified.

The action accepts a single BOOL argument that defines the logical level of the selected GPO line.

Note: GPIO is available only on TMxCore.

For the electrical characteristics and voltage levels, refer to the TMxCore datasheet.

Dante® API Actions

Allows Dante® subscriptions to be managed between devices on the network. The current device can function as a transmitter (TX), a receiver (RX), both, or neither. The available actions depend on the capabilities of the selected device.

Subscribe

Message	Argument	Comment
TX device name	STRING	Transmitter's device name on Dante® Network
TX channel number	INTEGER	Transmitter's channel number (zero based)
RX device name	STRING	Receiver's device name on Dante® Network
RX channel number	INTEGER	Receiver's channel number (zero based)

Unsubscribe

Message	Argument	Comment
RX device name	STRING	Receiver's device name on Dante® Network
RX channel number	INTEGER	Receiver's channel number (zero based)