

### **ROTO-CONTROL SYSEX API**

Version 1.2

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#### **Revision History**

| Version | Date       | Change  |
|---------|------------|---|
| 1.0     | 23/02/2025 | First release.  |
| 1.1     | 07/04/2025 | This version is NOT backwards compatible with v1.0              |
|         |            | Updates to support MACRO params:                                |
|         |            | LEARN PARAM   |
|         |            | PARAM LEARNED   |
|         |            | SET MAPPED CONTROL NAME (new)                                   |
| 1.2     | 23/06/2025 | This version is NOT backwards compatible with v1.1              |
|         |            | General updates and updates to support Bitwig Studio:           |
|         |            | DAW PING RESPONSE   |
|         |            | ROTO-DAW CONNECTED (new)  |
|         |            | REQUEST ROTO FW VERSION (new)                                   |
|         |            | ROTO FW VERSION (new)   |
|         |            | TRACK DETAILS   |
|         |            | PLUGIN DETAILS  |
|         |            | DAW SELECT PLUGIN   |
|         |            | LEARN PARAM   |
|         |            | <ul> <li>CONTROL MAPPED (renamed, was PARAM LEARNED)</li> </ul> |
|         |            | <ul> <li>MACRO PLUGIN PAGE INDEX (new)</li> </ul>               |
|         |            | CONTROL LEARNED (new)   |
|         |            | TOGGLE REMOTE PAGE (new)  |
|         |            | <ul> <li>TOGGLE TRACK GROUPING (new)</li> </ul>                 |
|         |            | DAW SELECT TRACK  |
|         |            | REQUEST SEND TRACK NAMES (new)                                  |
|         |            | SEND TRACK NAMES (new)  |
|         |            | Document formatting improvements.                               |

### Compatibility

| Version | Compatibility     |
|---------|-------------------|
| 1.0     | ROTO-SETUP v1.0.0 |
|         | ROTO-SETUP v1.1.1 |
|         | ROTO-SETUP v1.1.2 |
| 1.1     | ROTO-SETUP v1.1.3 |
|         | ROTO-SETUP v1.1.4 |
| 1.2     | ROTO-SETUP v2.0.0 |

#### 1. Introduction

The ROTO-CONTROL SYSEX API allows communication and configuration with an external DAW such as Ableton. The interface used is MIDI via USB.

The interface is bi-directional in that commands can be sent to ROTO-CONTROL and received from ROTO-CONTROL asynchronously.

Note 1: For conciseness ROTO-CONTROL is also referred to as ROTO throughout this document.

Note 2: All values are specified in hexadecimal.

#### 1.2 Command Format

All ROTO-CONTROL SYSEX commands take the following format:

F0 00 22 03 02 <data> F7

#### Where:

- F0 = Start SYSEX message byte.
- 00 22 03 = Melbourne Instruments SYSEX ID.
- 02 = ROTO-CONTROL v1 device ID.
- <data> = The command payload.
- F7 = End SYSEX message byte.

#### 1.3 Commands Overview

| Туре                               | Sub-type               | Description                             | To ROTO | From ROTO |
|------------------------------------|------------------------|---|---------|-----------|
| 0A:<br>GENERAL                     | 01: DAW<br>STARTED     | The DAW has started a session with ROTO | Υ       | N         |
|                                    | 02: PING<br>DAW        | Ping to check if the DAW is running     | N       | Υ         |
| 03: DAW PING RESPONSE              |                        | Ping response from the DAW              | Υ       | N         |
| 04: NUM<br>TRACKS                  |                        | Number of tracks                        | Υ       | N         |
| 05: FIRST<br>TRACK                 |                        | First track page index                  | Υ       | N         |
|                                    | 06: SET FIRST<br>TRACK | Set the first track page index          | N       | Y         |
| 07: TRACK<br>DETAILS               |                        | Track details in the current track page | Υ       | N         |
|                                    | 08: TRACK DETAILS END  | Finished sending track details          | Υ       | N         |
| 09: ROTO<br>SELECT<br>TRACK        |                        | ROTO-Control has selected a track       | N       | Υ         |
| 0A: REQUEST<br>TRANSPORT<br>STATUS |                        | Request the current transport status    | N       | Y         |

|        | 0B:                  | The current transport status         | Y        | N        |
|--------|----------------------|--------------------------------------|----------|----------|
|        | TRANSPORT            |                                      |          |          |
|        | STATUS               | T. 2070.                             |          | .,       |
|        | OC: ROTO-            | The ROTO has received the DAW PING   | N        | Υ        |
|        | DAW                  | RESPONSE, and the ROTO and DAW are   |          |          |
|        | CONNECTED            | now connected.                       |          |          |
|        | OD: REQUEST          | The DAW has requested the ROTO       | Υ        | N        |
|        | ROTO FW              | firmware version                     |          |          |
|        | VERSION              |                                      |          |          |
|        | 0E: ROTO FW          | The ROTO firmware version            | N        | Υ        |
|        | VERSION              |                                      |          |          |
| 0B:    | 01: SET              | Set the DAW in PLUGIN mode           | N        | Υ        |
| PLUGIN | PLUGIN               |                                      |          |          |
|        | MODE                 |                                      |          |          |
|        | 02: NUM              | Returns the number of PLUGINs on the | Υ        | N        |
|        | PLUGINS              | current track                        |          |          |
|        | 03: FIRST            | First PLUGIN page index              | Υ        | Υ        |
|        | PLUGIN               |                                      |          |          |
|        | 04: SET FIRST        | Set the first PLUGIN page index      | N        | Υ        |
|        | PLUGIN               |                                      |          |          |
|        | 05: PLUGIN           | Details of a PLUGIN                  | Υ        | N        |
|        | DETAILS              |                                      |          |          |
|        | 06: PLUGIN           | Finished sending PLUGIN details      | Υ        | N        |
|        | DETAILS END          |                                      |          |          |
|        | 07: ROTO             | The ROTO-CONTROL has selected a      | Υ        | N        |
|        | SELECT               | PLUGIN                               |          |          |
|        | PLUGIN               |                                      |          |          |
|        | 08: DAW              | The DAW has selected a PLUGIN        | Y        | N        |
|        | SELECT               |                                      |          |          |
|        | PLUGIN               |                                      |          |          |
|        | 09: SET              | Put the DAW in learn mode            | Υ        | N        |
|        | PLUGIN               |                                      |          |          |
|        | LEARN                |                                      |          |          |
|        | 0A: LEARN            | A param has been learned             | Υ        | N        |
|        | PARAM                | A4ddd2                               | <b>.</b> |          |
|        | 0B: CONTROL          | Mapped control details               | N        | Υ        |
|        | MAPPED               | Enable /disable a DUUCIN             | N.I      | V        |
|        | OC: SET              | Enable/disable a PLUGIN              | N        | Υ        |
|        | PLUGIN               |                                      |          |          |
|        | ENABLE<br>OD: SET    | Lock/uplock DILICING                 | N.I      | <u>.</u> |
|        | OD: SET              | Lock/unlock PLUGINs                  | N        | Υ        |
|        | PLUGIN LOCK          | Un man a learned central             | Υ        | NI NI    |
|        | 0E: UNMAP<br>CONTROL | Un-map a learned control             | 1        | N        |
|        | OF: SET              | Sot the name of a manned control     | V        | N.I      |
|        | MAPPED               | Set the name of a mapped control     | Y        | N        |
|        | CONTROL              |                                      |          |          |
|        | NAME                 |                                      |          |          |
|        | INVIAIF              |                                      |          |          |

|         | 10: MACRO PLUGIN PAGE INDEX        | Current MACRO PLUGIN page index                       | N | Υ |
|---------|------------------------------------|---|---|---|
|         | 11: CONTROL<br>LEARNED             | A param has been learned and assigned to a control    | N | Y |
|         | 12: TOGGLE<br>REMOTE<br>PAGE       | Request the DAW to toggle the remote page in a PLUGIN | N | Υ |
| OC: MIX | 01: SET MIX<br>ALL TRACKS<br>MODE  | Set MIX into "all tracks" mode                        | N | Υ |
|         | 02: SET MIX<br>TRACK MODE          | Set MIX into "single track" mode                      | N | Y |
|         | 03: NUM<br>SEND TRACKS             | The number of available send tracks                   | Υ | N |
|         | 04: DAW<br>SELECT<br>TRACK         | The DAW has selected a track                          | Y | N |
|         | 05: SET ALL<br>TRACKS<br>MODE      | Set the "all tracks" mode                             | N | Υ |
|         | 06: TOGGLE<br>TRACK<br>GROUPING    | Toggle track grouping on the currently selected track | N | Υ |
|         | 07: REQUEST<br>SEND TRACK<br>NAMES | Request a set of 8 send track names                   | N | Y |
|         | 08: SEND<br>TRACK<br>NAMES         | A set of 8 send track names                           | Υ | N |

#### 2. GENERAL Commands: 0A

#### 2.1 DAW STARTED: 01

#### Command

F0 00 22 03 02 **0A 01** F7

#### Description

This is sent by the DAW when it first starts (or a new session is started). The DAW should not send any further commands until it receives PING DAW from ROTO.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 2.2 PING DAW: 02

#### Command

F0 00 22 03 02 **0A 02** F7

#### Description

This is sent by ROTO to check if a DAW is connected – it will be sent by ROTO after receiving DAW STARTED or when ROTO is plugged into a PC. The DAW should respond with DAW PING RESPONSE when this is received. The DAW should not send any further commands until it receives ROTO-DAW CONNECTED from ROTO.

Note: ROTO will send this command every second for 1 minute to poll for a connected DAW.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Y | Bitwig Studio     | Υ |

#### 2.3 DAW PING RESPONSE: 03

#### Command

F0 00 22 03 02 **0A 03** <DT> F7

DT = DAW Type: Ableton Live (01), Bitwig Studio (02)

#### Description

This command should be sent by the DAW when it receives the PING DAW command from ROTO.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 2.4 NUM TRACKS: 04

#### Command

F0 00 22 03 02 **0A 04** <NT> F7

This command is sent from the DAW to indicate the number of tracks – either the number of audio or master-return tracks depending on the mixer mode.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 2.5 FIRST TRACK: 05

# FO 00 22 03 02 0A 05 <FT> F7 FT = First track index in multiples of 8 (00 = Track page 1, 08 = Track page 2, etc.)

# **Description**This command is sent from the DAW to indicate the current tracks page.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 2.6 SET FIRST TRACK: 06

```
Command
F0 00 22 03 02 0A 06 <FT> F7
FT = First track index in multiples of 8 (00 = Track page 1, 08 = Track page 2, etc.)
```

# **Description**This command is sent from ROTO to indicate when the page of tracks has been changed.

| Direction | DAW Compatibility |               |   |  |  |  |  |
|-----------|-------------------|---------------|---|--|--|--|--|
| TO ROTO   | N                 | Ableton Live  | Υ |  |  |  |  |
| FROM ROTO | Y                 | Bitwig Studio | Υ |  |  |  |  |

#### 2.7 TRACK DETAILS: 07

```
F0 00 22 03 02 0A 07 <TI TN:0D CS GT> F7

TI = Track index

TN = Track name: 0D-byte NULL terminated ASCII string, padded with 00s if needed

CS = Colour scheme: 00 - 52

GT = Grouped track: NO (00), YES (01)
```

#### Description

This command is sent from the DAW for each track on the current tracks page.

| Direction | DAW Compatibility |               |   |  |  |  |
|-----------|-------------------|---------------|---|--|--|--|
| TO ROTO   | Υ                 | Ableton Live  | Υ |  |  |  |
| FROM ROTO | N                 | Bitwig Studio | Υ |  |  |  |

#### 2.8 TRACK DETAILS END: 08

| Command                        |  |
|--------------------------------|--|
| F0 00 22 03 02 <b>0A 08</b> F7 |  |

# **Description**This command is sent from the DAW once all TRACK DETAILS commands have been sent.

| Direction | DAW Compatibility |               |   |  |  |  |  |
|-----------|-------------------|---------------|---|--|--|--|--|
| TO ROTO   | Ableton Live      |               |   |  |  |  |  |
| FROM ROTO | N                 | Bitwig Studio | Υ |  |  |  |  |

#### 2.9 ROTO SELECT TRACK: 09

| Command                                  |
|--|
| F0 00 22 03 02 <b>0A 09</b> <ti> F7</ti> |
| TI = Index of the track to select        |

## **Description**This command is sent when a track is selected via ROTO.

| Direction |   | DAW Compatibility |   |  |  |  |  |  |
|-----------|---|-------------------|---|--|--|--|--|--|
| TO ROTO   | N | Ableton Live      | Υ |  |  |  |  |  |
| FROM ROTO | Υ | Bitwig Studio     | Υ |  |  |  |  |  |

#### 2.10 REQUEST TRANSPORT STATUS: 0A

| Command                        |  |
|--------------------------------|--|
| F0 00 22 03 02 <b>0A 0A</b> F7 |  |

| Description  |  |
|--|--|
| This command is sent from ROTO to request the current transport controls status. |  |

| Direction | DAW Compatibility |               |   |  |  |  |
|-----------|-------------------|---------------|---|--|--|--|
| TO ROTO   | N                 | Ableton Live  | Υ |  |  |  |
| FROM ROTO | Υ                 | Bitwig Studio | Υ |  |  |  |

#### 2.11 TRANSPORT STATUS: 0B

|   | 2.11 110.000 000 00 |     |      |     |      |            |     |   |     |    |     |    |    |    |     |    |  |  |  |  |  |  |  |  |
|---|---------------------|-----|------|-----|------|------------|-----|---|-----|----|-----|----|----|----|-----|----|--|--|--|--|--|--|--|--|
|   | Command             |     |      |     |      |            |     |   |     |    |     |    |    |    |     |    |  |  |  |  |  |  |  |  |
| Ī | F0                  | 00  | 22   | 03  | 02   | 0 <b>A</b> | 0B  | <ps< th=""><th>SS</th><th>RS</th><th>SR</th><th>LS</th><th>PΙ</th><th>PO</th><th>AS&gt;</th><th>F7</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></ps<> | SS  | RS | SR  | LS | PΙ | PO | AS> | F7 |  |  |  |  |  |  |  |  |
|   | PS                  | = I | Play | y s | tatı | ıs:        | Off | (00   | )), | On | (01 | L) |    |    |     |    |  |  |  |  |  |  |  |  |

```
SS = Stop status: Off (00), always this value

RS = Record status: Off (00), On (01)

SR = Session Record status: Off (00), On (01)

LS = Loop status: Off (00), On (01)

PI = Punch-in status: Off (00), On (01)

PO = Punch-out status: Off (00), On (01)

AS = Re-enable automation status: Off (00), On (01)
```

This command is sent from the DAW in response to the REQUEST TRANSPORT STATUS command.

| Direction | DAW Compatibility |               |   |  |  |  |  |
|-----------|-------------------|---------------|---|--|--|--|--|
| TO ROTO   | Y                 | Ableton Live  | Υ |  |  |  |  |
| FROM ROTO | N                 | Bitwig Studio | Υ |  |  |  |  |

#### 2.12 ROTO-DAW CONNECTED: 0C

| Command                        |  |
|--------------------------------|--|
| F0 00 22 03 02 <b>0A 0C</b> F7 |  |

#### Description

This is sent by ROTO once it has received and finished processing DAW PING RESPONSE from a DAW. Once the DAW has received this command it can send other commands to ROTO as needed.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 2.13 REQUEST ROTO FW VERSION: 0D

| Command                        |  |
|--------------------------------|--|
| F0 00 22 03 02 <b>0A 0D</b> F7 |  |

| Description   |
|---|
| This command is sent from the DAW to request the ROTO firmware version. |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Y |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 2.14 ROTO FW VERSION: 0E

```
Command
F0 00 22 03 02 0A 0E <VX VY VZ GC:7> F7
VX = ROTO-CONTROL major version
VY = ROTO-CONTROL minor version
VZ = ROTO-CONTROL patch version
GC = Short GIT commit in ASCII bytes
```

| Description   |
|---|
| This command is sent from ROTO after receiving the REQUEST ROTO FW VERSION command. |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3. PLUGIN Commands: 0B

#### 3.1 SET PLUGIN MODE: 01

#### Command

F0 00 22 03 02 **0B 01** F7

#### Description

This command is sent from ROTO when PLUGIN mode is selected.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.2 NUM PLUGINS: 02

#### Command

F0 00 22 03 02 **0B 02** <NP> F7

 ${\tt NP} = {\tt Number} \ {\tt of} \ {\tt PLUGINS} \ {\tt on} \ {\tt the} \ {\tt current} \ {\tt track}$ 

#### Description

This command is sent from the DAW to indicate how many PLUGINs are on the currently selected track.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.3 FIRST PLUGIN: 03

#### Command

F0 00 22 03 02 **0B 03** <FP> F7

FP = First PLUGIN index in multiples of 8 (00 = PLUGIN page 1, 08 = PLUGIN page 2, etc.)

#### Description

This command is sent from the DAW to indicate the current PLUGIN page.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.4 SET FIRST PLUGIN: 04

#### Command

F0 00 22 03 02 **0B 04** <FP> F7

FP = First PLUGIN index in multiples of 8 (00 = PLUGIN page 1, 08 = PLUGIN page 2, etc.)

#### Description

This command is sent from ROTO to indicate when the page of PLUGINs has been changed.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.5 PLUGIN DETAILS: 05

| Command  |
|--|
| F0 00 22 03 02 <b>0B 05</b> <pi np="" pe="" ph:8="" pn:0d="" pt=""> F7</pi>                |
| PI = PLUGIN index  |
| PH = PLUGIN hash   |
| PE = PLUGIN enabled status: Disabled (00), Enabled (01)                                    |
| PN = PLUGIN name: OD-byte NULL terminated ASCII string, padded with OOs if needed          |
| PT = PLUGIN type: Normal (00), MACRO PLUGIN (01), Third-party PLUGIN (02)                  |
| NP = Number of MACRO PLUGIN control pages, set to 00 if not a MACRO PLUGIN. Ignored if the |
| connected DAW is Ableton Live  |

#### Description

This command is sent from the DAW for each PLUGIN on the current PLUGIN page.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.6 PLUGIN DETAILS END: 06

| Command                        |  |
|--------------------------------|--|
| F0 00 22 03 02 <b>0B 06</b> F7 |  |

#### Description

This command is sent from the DAW once all PLUGIN DETAILS commands have been sent.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.7 ROTO SELECT PLUGIN: 07

| Command                                  |
|--|
| F0 00 22 03 02 <b>0B 07</b> <pi> F7</pi> |
| PI = Index of the PLUGIN to select       |

| Description   |
|---|
| This command is sent from ROTO when a PLUGIN is selected. |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.8 DAW SELECT PLUGIN: 08

# FO 00 22 03 02 0B 08 <PI MP FS> F7 PI = Index of the PLUGIN to select MP = MACRO PLUGIN page index (zero-based), set to 00 if not a MACRO PLUGIN. Ignored if the connected DAW is Ableton Live FS = Force selection of the PLUGIN, overriding PLUGIN lock if needed: No force (00), Force (01)

# Description This command is sent from the DAW when a PLUGIN is selected.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.9 SET DEVICE LEARN: 09

| Command                                  |                 |
|--|-----------------|
| F0 00 22 03 02 <b>0B 09</b> <dl> F7</dl> |                 |
| DL = Device learn status: Off            | f (00), On (01) |

# **Description**This command is sent from ROTO when entering or exiting learn mode.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.10 LEARN PARAM: OA

```
Command
F0 00 22 03 02 0B 0A <PI:2 PH:6 MP CI NS PP:2 PN:0D SN:NS*0D> F7
PI = Param index
PH = Param hash
MP = MACRO param: NO (00), YES (01)
CI = Add a centre (top) indent: NO (00), YES (01). If this is set to YES, the number of steps (NS) setting is ignored. Only applies to knob controls.
NS = Number of steps: 00 or 02 - 18
PP = Param position: 0 - 16383, formatted as two 7-bit values
PN = Param name: 0D-byte NULL terminated ASCII string, padded with 00s if needed
SN = If NS is <= 10: An array of NS x 0D-byte NULL terminated ASCII strings, each string padded with 00s if needed
If NS > 10: No data
```

#### Description

This command is sent from the DAW when in learn mode and a PLUGIN param has been selected in the DAW to be learned. It is also sent from the DAW in response to each CONTROL MAPPED command received via ROTO.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.11 CONTROL MAPPED: 0B

| Command  |
|--|
| F0 00 22 03 02 <b>0B 0B</b> <pi:2 ci="" ct="" mp="" ph:6=""> F7</pi:2> |
| PI = Param index   |
| PH = Param hash  |
| CT = Control type: Knob (00), Switch (01)                              |
| CI = Index of the control within the current PLUGIN page               |
| MP = MACRO param: NO (00), YES (01)                                    |

#### Description

This command is sent from ROTO for each control that is mapped on the current PLUGIN page.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.12 SET PLUGIN ENABLED: OC

| Command   |
|---|
| F0 00 22 03 02 <b>0B 0C</b> <pi es=""> F7</pi>          |
| PI = PLUGIN index                                       |
| ES = PLUGIN enabled status: Disabled (00), Enabled (01) |

| Description   |
|---|
| This command is sent from ROTO when the selected PLUGIN is enabled or disabled. |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.13 SET PLUGINS LOCK: 0D

| Command  |
|--|
| F0 00 22 03 02 <b>0B 0D</b> <ls> F7</ls>             |
| LS = PLUGINS lock status: Unlocked (00), Locked (01) |

| Description  |  |
|--|--|
| This command is sent from ROTO when the selected PLUGIN is locked or unlocked. |  |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Y | Bitwig Studio     | Υ |

#### 3.14 UNMAP CONTROL: 0E

# Command F0 00 22 03 02 0B 0E <CT CI> F7 CT = Control type: Switch (00), Knob (01) CI = Index of the control within the current PLUGIN page

## **Description**This command can be sent from a DAW to unmap a mapped control on the current controls page.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.15 SET MAPPED CONTROL NAME: OF

| Command  |
|--|
| F0 00 22 03 02 <b>0B 0F</b> <pi:2 ph:6="" pn:0d=""> F7</pi:2>                    |
| PI = Param index   |
| PH = Param hash  |
| PN = Param name: 0D-byte NULL terminated ASCII string, padded with 00s if needed |

## **Description**This command can be sent from a DAW to update the displayed name of a macro param.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 3.16 MACRO PLUGIN PAGE INDEX: 10

| Command                                  |   |
|--|---|
| F0 00 22 03 02 <b>0B 10</b> <pi> F7</pi> |   |
| PI = MACRO PLUGIN Page index             | (zero based). Not sent if the plugin is not a MACRO PLUGIN. |

# **Description**This command is sent from ROTO when a MACRO PLUGIN is selected, and the page of controls is changed via the arrow keys

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | N |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.17 CONTROL LEARNED: 11

```
Command

F0 00 22 03 02 0B 11 <CT CI> F7

CT = Control type: Switch (00), Knob (01)

CI = PLUGIN control index (00 - 3F)
```

This command is sent from ROTO when a control (knob or switch) has been successfully learned.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 3.18 TOGGLE REMOTE PAGE: 12

| Command                        |
|--------------------------------|
| F0 00 22 03 02 <b>0B 12</b> F7 |

| Description  |
|--|
| This command is sent from ROTO to request the DAW to toggle the remote page in a PLUGIN. |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | N |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 4. MIX Commands: 0C

#### 4.1 SET MIX ALL TRACKS MODE: 01

# FO 00 22 03 02 OC 01 <AM KM SM SI> F7 AM = All tracks mode: Audio (00), Master-Return (01) KM = Knob mode: Level (00), Pan (01), Send (02) SM = Switch mode: Mute (00), Solo (01), Arm Recording (02) SI = Send index: The (zero-based) index of the send to control if the Knob mode is Send. Ranges from 0 - Number of available sends

#### Description

This command is sent from ROTO to set the mixer in MIX all tracks mode.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 4.2 SET MIX TRACK MODE: 02

# F0 00 22 03 02 0C 02 <CI> F7 CI = Track control page index in multiples of 8 (00 = Track controls page 1, 08 = Track controls page 2, etc.)

| Description  |  |
|--|--|
| This command is sent from ROTO to set the mixer in MIX track mode. |  |

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Υ | Bitwig Studio     | Υ |

#### 4.3 NUM SEND TRACKS: 03

| Command                                  |  |
|--|--|
| F0 00 22 03 02 <b>0C 03</b> <ns> F7</ns> |  |
| NS = Number of available send tracks     |  |

# **Description**This command is sent from the DAW to indicate how many send tracks are available.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Y | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 4.4 DAW SELECT TRACK: 04

| Command   |  |
|---|--|
| F0 00 22 03 02 <b>0C 04</b> <ti cs="" gt="" tn:0d=""> F7</ti> |  |

```
TI = Track index

TN = Track name: 0D-byte NULL terminated ASCII string, padded with 00s if needed

CI = Colour scheme: 00 - 52

GT = Grouped track: NO (00), YES (01)
```

This command is sent from the DAW when a mixer track is selected.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | Υ | Ableton Live      | Υ |
| FROM ROTO | N | Bitwig Studio     | Υ |

#### 4.5 SET ALL TRACKS MODE: 05

| Command  |  |
|--|--|
| F0 00 22 03 02 <b>0C 05 &lt;</b> AM> F7              |  |
| AM = All tracks mode: Audio (00), Master-Return (01) |  |

#### Description

This command is sent from ROTO when the MIX all tracks mode is changed to show audio or master-return tracks.

| Direction |   | DAW Compatibility |   |
|-----------|---|-------------------|---|
| TO ROTO   | N | Ableton Live      | Υ |
| FROM ROTO | Y | Bitwig Studio     | Υ |

#### 4.6 TOGGLE TRACK GROUPING: 06

| Command                                  |  |
|--|--|
| F0 00 22 03 02 <b>0C 06</b> <ti> F7</ti> |  |
| TI = Track index                         |  |

#### Description

This command is sent from ROTO to toggle track grouping on the currently selected track (if grouping is applicable for that track).

| Direction | DAW Compatibility |               |   |
|-----------|-------------------|---------------|---|
| TO ROTO   | N                 | Ableton Live  | Υ |
| FROM ROTO | Υ                 | Bitwig Studio | Y |

#### 4.7 REQUEST SEND TRACK NAMES: 07

| Command                                  |
|--|
| F0 00 22 03 02 <b>0C 07</b> <si> F7</si> |
| SI = SEND names index (zero based)       |

#### Description

Request a block of 8 send track names from the DAW containing the send track names index.

| Direction | DAW Compatibility |               |   |
|-----------|-------------------|---------------|---|
| TO ROTO   | N                 | Ableton Live  | N |
| FROM ROTO | Υ                 | Bitwig Studio | Υ |

#### 4.8 SEND TRACK NAMES: 08

SI = SEND names index (zero based)

| l | CO | ••••• | iaii | u  |    |    |    |   |           |   |    |  |
|---|----|-------|------|----|----|----|----|---|-----------|---|----|--|
| I | F0 | 00    | 22   | 03 | 02 | 0C | 80 | <si< th=""><th>SN:08*0D&gt;</th><th>&gt;</th><th>F7</th><th></th></si<> | SN:08*0D> | > | F7 |  |

 $SN = An array of 8 \times 0D$ -byte NULL terminated ASCII strings, each string padded with 00s if needed

#### Description

This command should be sent by the DAW after receiving either the SET MIX ALL TRACKS MODE, SET MIX TRACK MODE, or REQUEST SEND TRACK NAMES commands and at least one send track is present in the DAW:

1. SET MIX ALL TRACKS MODE command is received:

It must send a block of 8 send track names with the start index being a multiple of 8 and containing the send index received in the command. Examples:

- Send index is 00, the send track names sent should be from index 00.
- Send index is 07, the send track names sent should be from index 00.
- Send index is 08, the send track names sent should be from index 08.
- Send index is 14, the send track names sent should be from index 10.

Note: If the track with the send index is renamed, the block of 8 track names must be resent to ROTO.

2. SET MIX TRACK MODE command is received:

It must send a block of 8 SEND names with the start index being calculated based on the track control page index received in the command. Examples:

- Track control page index is 00, the send track names sent should be from index 00.
- Track control page index is 08, the send track names sent should be from index 06.
- Track control page index is 10, the send track names sent should be from index 0E.
- 3. REQUEST SEND TRACK NAMES command is received:

It must send a block of 8 send track names with the start index being a multiple of 8 and containing the send index received in the command.

Note: If there is no send track name then set all 00s for that string.

| Direction | DAW Compatibility |               |   |
|-----------|-------------------|---------------|---|
| TO ROTO   | Υ                 | Ableton Live  | N |
| FROM ROTO | N                 | Bitwig Studio | Y |