

# Arturia MIDI SysEx Overview

Arturia Microbrute uses MIDI SysEx protocol.

Communication consists of three parts:

1. Identify device
2. Read current state
3. Change the state

Each part (except for the third one) consists of a request message sent to the device a response message sent by the device.

## Identify request

```
f0:7e:7f:06:01:f7
```

## Identify response

```
f0:7e:01:06:02:00:20:6b:04:00:02:01:01:00:03:02:f7
```

## Read state request

```
f0:00:20:6b:05:01:XX:00:YY:f7
```

XX - counter, starting from 0x00;

YY - parameter code from table 1.

## Read state response

```
f0:00:20:6b:05:01:XX:01:YY:ZZ:00:00:00:00:00:00:00:00:f7
```

XX - counter, the value will be the same as in the request;

YY - parameter code from table 2;

ZZ - value of the given parameter (can be found in tables 3.1-3.14).

## Set state request

```
f0:00:20:6b:05:01:XX:01:YY:ZZ:f7
```

XX - counter;

YY - parameter code from table 2;

ZZ - value of the given parameter (can be found in tables 3.1-3.14).

## Tables

Table 1. Parameter numbers in request to read state

Note priority	0x0c
Velocity response	0x12
Play	0x2f
Seq retrig	0x35
Next seq	0x33
Step on	0x2b
Step	0x39
LFO key retrig	0x10
Env legato mode	0x0e
Gate	0x37
Sync	0x3d
Bend range	0x2d
MIDI receive channel	0x06
MIDI send channel	0x08

Table 2. Parameter numbers in response to read state and in request to set state

Note priority	0x0b
Velocity response	0x11
Play	0x2e
Seq retrig	0x34
Next seq	0x32
Step on	0x2a
Step	0x38

LFO key retrig	0x0f
Env legato mode	0x0d
Gate	0x36
Sync	0x3c
Bend range	0x2c
MIDI receive channel	0x05
MIDI send channel	0x07

## Tables 3 Parameter values

Table 3.1 Note priority

Last	0x00
Low	0x01
High	0x02

Table 3.2 Velocity response

/	0x00
(	0x01
)	0x02

Table 3.3 Play

Hold	0x00
Note on	0x01

Table 3.4 Seq retrigger

Reset	0x00
Legato	0x01
None	0x02

Table 3.5 Next seq

End	0x00
Instant reset	0x01
Instant continue	0x02

Table 3.6 Step on

Clk	0x00
Gate	0x01

Table 3.7 Step

1/4	0x04
1/8	0x08
1/16	0x10
1/32	0x20

Table 3.8 LFO key retrig

Off	0x00
On	0x01

Table 3.9 Env legato mode

Off	0x00
On	0x01

Table 3.10 Gate

Short	0x01
Medium	0x02
Long	0x03

Table 3.11 Sync

Auto	0x00
Internal	0x01
External	0x02

Table 3.12 Bend range

1	0x01
2	0x02
3	0x03
4	0x04
5	0x05
6	0x06
7	0x07
8	0x08
9	0x09
10	0x0a
11	0x0b
12	0x0c

Table 3.13 MIDI receive channel

1	0x00
2	0x01
3	0x02
4	0x03
5	0x04
6	0x05
7	0x06

8	0x07
9	0x08
10	0x09
11	0x0a
12	0x0b
13	0x0c
14	0x0d
15	0x0e
16	0x0f
All	0x10

Table 3.14 MIDI send channel

1	0x00
2	0x01
3	0x02
4	0x03
5	0x04
6	0x05
7	0x06
8	0x07
9	0x08
10	0x09
11	0x0a
12	0x0b
13	0x0c
14	0x0d
15	0x0e
16	0x0f

## Disclaimer

This information was obtained purely by reverse engineering, no code was disassembled.