

## Emulator - Emulator Issues #12711

### Wrong control stick recognition with few GamePads – potential bug source roughly found

10/17/2021 08:12 AM - Barock

<b>Status:</b>	New	<b>% Done:</b>	0%
<b>Priority:</b>	Normal		
<b>Assignee:</b>			
<b>Category:</b>			
<b>Target version:</b>			
<b>Operating system:</b>	Android	<b>Relates to performance:</b>	No
<b>Issue type:</b>	Bug	<b>Easy:</b>	No
<b>Milestone:</b>		<b>Relates to maintainability:</b>	No
<b>Regression:</b>	No	<b>Regression start:</b>	
<b>Relates to usability:</b>	No	<b>Fixed in:</b>	

#### Description

## Assumption

There seems to be a buffer overflow in the recognition of gamepads right control stick. >Up< and >right< is already set with "Axis 11+" and >down< and >left< is already set with "Axis 14+" on some gamepads. There are no negative axis found.

#### What steps will reproduce the problem?

Connect the *8Bitdo Gamepad SF30 Pro* via Bluetooth to you android phone.

Configure the buttons of your GameCube Controller 1 and use the right control stick. The negative axis won't be recognized like described above.

#### Is the issue present in the latest development version? For future reference, please also write down the version number of the latest development version.

Yes - Dolphin Emulator (Android) 5.0-15339

#### What are your PC specifications? (CPU, GPU, Operating System, more)

Smartphone: Poco F3

OS: Android 11

GamePad that causes the bug: '8Bitdo Gamepad SF30 Pro'

GamePad that doesn't causes the bug: Ipega 9037

The difference between these two gamepads are analyzed below.

#### Is there anything else that can help developers narrow down the issue? (e.g. logs, screenshots, configuration files, savefiles, savestates)

Only one of the two gamepads I use causes this bug. I try to find out the delta of the right control stick of those two gamepads by the android app "Gamepad tester" and found the following:

## Right control stick of working Gamepad (*Ipega 9037*):

### Vertical axis

axis 0x0e AXIS RZ default value (not moved): 0.003921628

up maximum: -0.89 (already slight different but near -0.9)

down maximum: 0.89 (already slight different but near +0.9)

## Horizontal axis

```
axis 0x0b AXIS Z default value (not moved): 0.003921628
left maximum: -0.89 (already slight different but near -0.9)
right maximum: 0.89 (already slight different but near +0.9)
```

## Right control stick of *problematic* Gamepad (8Bitdo Gamepad SF30 Pro)

### Vertical axis

```
axis 0x0e AXIS RZ default value (not moved): 1.5258789E-5
up maximum: -0.89 (already slight different but near -0.9)
down maximum: 0.89 (already slight different but near +0.9)
```

### Horizontal axis

```
axis 0x0b AXIS Z default value (not moved): 1.5258789E-5
left maximum: -0.89 (already slight different but near -0.9)
right maximum: 0.89 (already slight different but near +0.9)
```

## Conclusion

Only the default value is different. The floating number 1.5258789E-5 draws attention and seems to be a source of a wrong calculation. ;)

## History

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#1 - 10/17/2021 08:16 AM - Barock

The title uses a wrong word. :-P The last word should be *found* not *founded*.

*Wrong control stick recognition with few GamePads – potential bug source roughly found* ~~ed~~

#2 - 10/17/2021 08:17 AM - JosJuice

- Subject changed from *Wrong control stick recognition with few GamePads – potential bug source roughly founded* to *Wrong control stick recognition with few GamePads – potential bug source roughly found*

- Operating system Android added

- Operating system deleted (N/A)

1.5258789E-5 is a very small number. I don't think this number has anything to do with the problem.