Automated Boks test suite

Sunday 10, February 2013, 11:37:53

Test system: `Linux-3.2.0-37-generic-x86_64-with-Ubuntu-12.04-precise`

Boks model: dev.boks

Boks firmware: 0.1.9

Number of buttons (including photodiode): 3

Minimum response latency

The values below correspond to the response time to a continuously pressed button, based on 1000 measurements.

Button	*M (ms)*	*SD (ms)*	*Min (ms)*	*Max (ms)*
1	0.09	0.00	0.08	0.12
2	0.09	0.00	0.08	0.12

Noise test

The measurements below reflect the amount of noise in the signal, i.e. the number of times that the measured button state does not correspond to the goal state, based on 1000 measurements.

Button	*Goal state*	*# Match*	*# Non-match*
1	1	1000	0
1	0	1000	0
2	1	1000	0
2	0	1000	0

Communication speed

The measurements below reflect the time it takes for various forms of communication to complete, based on 1000 measurements. For the temporal precision of the Boks, `CMD_SET_T1` is most important.

Description	*Bytes sent*	*Bytes received*	*Command*	*Duration (ms)*
Set T1	1	0	`b.dev.write(libboks.CMD_SET_T1)`	0.08
Get active buttons	1	1	`b.dev.write(libboks.CMD_GET_BUTTONS);b.dev.read(1)`	4.10
Get TD	1	4	`b.dev.write(libboks.CMD_GET_TD);b.dev.read(4)`	4.10
Wait for button release	3	5	`b.get_button_release()`	8.19