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Former Home of SpinCAD Designer

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New Block: Default (#p3023)

by **lutop** » Thu Sep 07, 2017 12:35 am

Hi

I've been playing this summer with Eclipse and SpinCad Designer... and I've come up with a couple of blocks I will use in some projects. One of them is still under development, but this one seems to work. I called it "Default", but you can re-name as you wish.

The basic functionality is to set a default value for a control (usually a POT). This control will retain the "default" value defined through the control panel of the block, until the POT (or whatever you input to it) is changing by a certain amount (configured by the threshold value in the control panel). At this point, it will simply copy the input to the output.

I use this to have a default usable preset for each program. In a live situation, I don't want to be messing with pots when I change from a chorus to a shimmer (let's say). This block allows me to define the settings I use the most and ensure that whenever I switch programs they will be there. If I want to change settings, I can still move a pot and go back to "manual".

This is the code:

```
@name Default
@color "0xf2f224"
@controlInput input Input
@controlOutput output1 Output

equ  default_value  0.5
// variable - Name - low - high - multiplier - precision - option
@sliderLabel default_value 'Default Value' 0 0.999 1 1000.0 3
```

```
equ  threshold  0.04
// variable - Name - low - high - multiplier - precision - option
@sliderLabel threshold 'Threshold' 0.01 0.999 1 1000.0 3


;REGISTERS
equ   output1      reg0
equ   initial_value   reg1    ;this register stores the initial value of
the pot
equ    hasmoved    reg2   ;this register tracks if pot has moved away from
initial value


@isPinConnected Input


rdax    input,1          ;read initial input value
wrax    output1,1       ;write to output. it will be overwwritten later if
needed
skp run, endrun


wrax    initial_value,0 ;store in initial_value register and clear acc
wrax    hasmoved,0       ;set hasmoved to 0
endrun:



rdax    hasmoved,1          ;read hasmoved flag
skp neg, moved             ;if it has moved, skip
sof     0,default_value
wrax    output1,0        ;overwrite output with default value
moved:
; ---------- set flag ----------------
rdax    input,1           ;read input value.
rdax    initial_value,-1   ;input-initial value
absa                 ;
sof   1,-threshold
;rdax   threshold, -1      ;compare to threshold
skp NEG, unchanged          ; |input-initial_value|< threshold  ,  pot did
not move enough
sof     0,-1
wrax    hasmoved,0        ;set hasmoved flag to -1


unchanged:

@setOutputPin Output output1
@endif
```

The code seems to be working correctly, although I'm still under "beta" stage, doing some tests. The only drawback is that it takes quite a lof of instructions and I haven't been able to optimize it more

so far. If you have any suggestion on how to make the code more effective, your comments are welcome.

Let me know if you test it.

Mat

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Re: New Block: Default (#p3024)

by **Digital Larry** » Thu Sep 07, 2017 12:51 pm

Thanks a lot for the submission!

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