2025/10/30 20:13 1/3 Hardware

This page will contain the information about the combined lcd/button matrix forum $topic^{uCApps}$

right now I'm using a modified version of the sm_simple C example this code will be rewritten to make it more coherent

modifications to scan matrix example uCApps

Hardware

DOUT wiring

DIN wiring

*note: schematics not finished!

Software

in main.c:

in sm simple.asm:

```
...
global _sm_button_column
global _sm_button_row
global _sm_button_value
```

```
global
            sm col
    ;; import lables
              _SM_NotifyToggle
   extern
                              ; (no access ram required, these variables can
accessram
                udata
be located anywhere)
_sm_button_column
                                 ; exported to C, therefore an " " has been
                           1
added
                           1
sm button row
                    res
_sm_button_value
                           1
                    res
_sm_col
                    res 1
. . .
SM PrepareCol
    ;; select next DOUT register
    ;; (current column + 1) & 0x07
   SET BSR
               sm selected column
            sm selected column, W, BANKED ; (* see note below)
   incf
   andlw
             0x07
    ; sm col is used by LM SetRow()
   movwf
             _sm_col
   call
            MIOS HLP GetBitANDMask
                                       ; (inverted 1 of 8 code)
```

and finally in sm simple.h:

```
extern unsigned char sm_button_value;
extern unsigned char sm_col;
...
```

Appendum

To avoid flickering leds when pushing a button the MIOS button debouncing should be turned off!!

Due to the setup of the SRIO driver the debounce algoritm also delays the DOUT chain when a DIN event is being debounced. So when a button is pushed the led update frequency is reduced, the higher the debounce value, the lower the update frequency.

According to this post TK will fix this in a future MIOS release:

This is something what I'm planning to solve in one of the next MIOS versions - currently the same

http://wiki.midibox.org/ Printed on 2025/10/30 20:13

2025/10/30 20:13 3/3 Hardware

SR scanning routine is used for DIN and DOUT registers, which means, >when the DINs are temporary disabled due to the cheap debouncing method, the DOUT registers won't be updated.

The solution is to add a second scan routine which only services the DOUTs so long the debouncing delay is active.

Workaround

To turn the debouncing off, set

#define DIN_DEBOUNCE_VALUE 0

back to DSEQ32

From:

http://wiki.midibox.org/ - MIDIbox

Permanent link:

http://wiki.midibox.org/doku.php?id=dseq32_matrix&rev=1156334470

Last update: **2006/10/15 09:35**

