MIOS DIN/DOUT Pin Numbers

Sometimes the pin numbers of special DINs or DOUTs can be specified in the main.asm or setup_*.asm file of a MIOS application.

Examples:

```
#define DEFAULT_MIDI_RX_LED 0x40        ; DOUT SR#9, pin D0
#define DEFAULT_MIDI_TX_LED 0x41        ; DOUT SR#9, pin D1
```

or

```
#define DEFAULT_DIN_MENU_EXEC         7       ; menu exec button assigned to
DIN pin #7
#define DEFAULT_DIN_MENU_SNAPSHOT     6       ; menu snapshot button
assigned to DIN pin #4
#define DEFAULT_DIN_MENU_RIGHT        5       ; NOT USED - overlayed by
datawheel
#define DEFAULT_DIN_MENU_LEFT         4       ; NOT USED - overlayed by
datawheel
```

or

```
       ;;         SR  Pin  Mode
        ENC_ENTRY  5,  0,  MIOS_ENC_MODE_NON_DETENTED   ; V-Pot 1
        ENC_ENTRY  5,  2,  MIOS_ENC_MODE_NON_DETENTED   ; V-Pot 2
        ENC_ENTRY  5,  4,  MIOS_ENC_MODE_NON_DETENTED   ; V-Pot 3
        ENC_ENTRY  5,  6,  MIOS_ENC_MODE_NON_DETENTED   ; V-Pot 4
```

The following table should give you a quick overview over the numbers. Please bear in mind that we are sometimes counting from 0, and sometimes from 1.

Means: sometimes the first pin or shiftregister has number 0, sometimes it has number 1 - thats always an issue, because programmer mostly prefer to count from 0, users want to count from 1 - it's a bit of a mess! Forgive me! 

In the meantime I've tried to make the setup more consistent. Shiftregisters are always counted from 1, and pins are always counted from 0

Important Note: for DIN shift registers, pins will be reflected on software- level in reversed order for each shift register:

D7 (hardware level) of the first shift register will be pin-number 0 (software level), not 7!
D0 (hardware level) of the second shift register will be pin-number 15 (sorware level), not 8!
The first shift register is for both DIN and DOUT the one that is closest to the core on hardware level.

In the datasheets of the shift-register IC's, D0 is often labled A / QA, D7 is labled H / QH.

Note that this applies only for DIN's, NOT for DOUT's. For DOUT's D0 / A (hardware) will be the lowest pin number in software.

DIN chain hardware-level: CORE → R1::qH → R1::H → R1 → R1::G ..... R2::qH → R2::H etc.
DOUT chain hardware-level: CORE → R1::SER → R1::A → R1::B → R1::C ..... R2::SER → R2::A etc.

If you want to read more about this, refer this forum discussion:
http://www.midibox.org/forum/index.php/topic,12379.0.html

See also the following table to get a clearer picture.

Ok, here the table:

Shift Register	SR number	Pin Name DOUT PCB	Pin Number	Hex number
first	1	D0	0	0x00
first	1	D1	1	0x01
first	1	D2	2	0x02
first	1	D3	3	0x03
first	1	D4	4	0x04
first	1	D5	5	0x05
first	1	D6	6	0x06
first	1	D7	7	0x07
second	2	D0	8	0x08
second	2	D1	9	0x09
second	2	D2	10	0x0a
second	2	D3	11	0x0b
second	2	D4	12	0x0c
second	2	D5	13	0x0d
second	2	D6	14	0x0e
second	2	D7	15	0x0f
third	3	D0	16	0x10
third	3	D1	17	0x11
third	3	D2	18	0x12
third	3	D3	19	0x13
third	3	D4	20	0x14
third	3	D5	21	0x15
third	3	D6	22	0x16
third	3	D7	23	0x17
fourth	4	D0	24	0x18
fourth	4	D1	25	0x19
fourth	4	D2	26	0x1a
fourth	4	D3	27	0x1b
fourth	4	D4	28	0x1c
fourth	4	D5	29	0x1d

Shift Register	SR number	Pin Name DOUT PCB	Pin Number	Hex number
fourth	4	D6	30	0x1e
fourth	4	D7	31	0x1f
fifth	5	D0	32	0x20
fifth	5	D1	33	0x21
fifth	5	D2	34	0x22
fifth	5	D3	35	0x23
fifth	5	D4	36	0x24
fifth	5	D5	37	0x25
fifth	5	D6	38	0x26
fifth	5	D7	39	0x27
sixth	6	D0	40	0x28
sixth	6	D1	41	0x29
sixth	6	D2	42	0x2a
sixth	6	D3	43	0x2b
sixth	6	D4	44	0x2c
sixth	6	D5	45	0x2d
sixth	6	D6	46	0x2e
sixth	6	D7	47	0x2f
seventh	7	D0	48	0x30
seventh	7	D1	49	0x31
seventh	7	D2	50	0x32
seventh	7	D3	51	0x33
seventh	7	D4	52	0x34
seventh	7	D5	53	0x35
seventh	7	D6	54	0x36
seventh	7	D7	55	0x37
eighth	8	D0	56	0x38
eighth	8	D1	57	0x39
eighth	8	D2	58	0x3a
eighth	8	D3	59	0x3b
eighth	8	D4	60	0x3c
eighth	8	D5	61	0x3d
eighth	8	D6	62	0x3e
eighth	8	D7	63	0x3f
ninth	9	D0	64	0x40
ninth	9	D1	65	0x41
ninth	9	D2	66	0x42
ninth	9	D3	67	0x43
ninth	9	D4	68	0x44
ninth	9	D5	69	0x45
ninth	9	D6	70	0x46
ninth	9	D7	71	0x47
tenth	10	D0	72	0x48
tenth	10	D1	73	0x49

Shift Register	SR number	Pin Name DOUT PCB	Pin Number	Hex number
tenth	10	D2	74	0x4a
tenth	10	D3	75	0x4b
tenth	10	D4	76	0x4c
tenth	10	D5	77	0x4d
tenth	10	D6	78	0x4e
tenth	10	D7	79	0x4f
eleventh	11	D0	80	0x50
eleventh	11	D1	81	0x51
eleventh	11	D2	82	0x52
eleventh	11	D3	83	0x53
eleventh	11	D4	84	0x54
eleventh	11	D5	85	0x55
eleventh	11	D6	86	0x56
eleventh	11	D7	87	0x57
twelfth	12	D0	88	0x58
twelfth	12	D1	89	0x59
twelfth	12	D2	90	0x5a
twelfth	12	D3	91	0x5b
twelfth	12	D4	92	0x5c
twelfth	12	D5	93	0x5d
twelfth	12	D6	94	0x5e
twelfth	12	D7	95	0x5f
thirteenth	13	D0	96	0x60
thirteenth	13	D1	97	0x61
thirteenth	13	D2	98	0x62
thirteenth	13	D3	99	0x63
thirteenth	13	D4	100	0x64
thirteenth	13	D5	101	0x65
thirteenth	13	D6	102	0x66
thirteenth	13	D7	103	0x67
fourteenth	14	D0	104	0x68
fourteenth	14	D1	105	0x69
fourteenth	14	D2	106	0x6a
fourteenth	14	D3	107	0x6b
fourteenth	14	D4	108	0x6c
fourteenth	14	D5	109	0x6d
fourteenth	14	D6	110	0x6e
fourteenth	14	D7	111	0x6f
fifteenth	15	D0	112	0x70
fifteenth	15	D1	113	0x71
fifteenth	15	D2	114	0x72
fifteenth	15	D3	115	0x73
fifteenth	15	D4	116	0x74
fifteenth	15	D5	117	0x75

Shift Register	SR number	Pin Name DOUT PCB	Pin Number	Hex number
fifteenth	15	D6	118	0x76
fifteenth	15	D7	119	0x77
sixteenth	16	D0	120	0x78
sixteenth	16	D1	121	0x79
sixteenth	16	D2	122	0x7a
sixteenth	16	D3	123	0x7b
sixteenth	16	D4	124	0x7c
sixteenth	16	D5	125	0x7d
sixteenth	16	D6	126	0x7e
sixteenth	16	D7	127	0x7f

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