

# SCP and MSA #defines for the SpeakJet



## ImportantNote:

**This file is currently under development and can change radically!**

**Maybe you want to wait some days until this note disappears to add your SJ-Definitions**

It can be used for your C-based MBHP\_IIC\_SpeakJet Project:

Feel free to edit and add defines!

```
/*
 * IIC_SpeakJetDefines.h
 * kII.2
 *
 * Created by Michael Markert, audiocommander.de on 20.05.06
 * Based on Speakjet control codes from July 27, 2004 version of Speakjet
Manual
 * and ASM-Version of Doug Elliott, VA3DAE
 *
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 */

#ifndef _IIC_SPEAKJETDEFINES_H
#define _IIC_SPEAKJETDEFINES_H

// ***** SPEAKJET MIDI ASSIGNMENTS * //
#ifdef _DEBUG_C
    #pragma mark -
    #pragma mark SPEAKJET MIDI ASSIGNMENTS
#endif

// MIDI ASSIGNMENTS
// optimized for KORG microKONTROL

#define SJCC_PHRASE                20
// pads 1 - 8: call phrase
#define SJCC_PHRASE0                21
#define SJCC_PHRASE1                22
#define SJCC_PHRASE2                23
#define SJCC_PHRASE3                24
#define SJCC_PHRASE4                25
#define SJCC_PHRASE5                26
```

```
#define SJCC_PHRASE6          27
#define SJCC_PHRASE7          28
// pads 9 - 12: slow/low/high/fast
#define SJCC_NEXT_SLOW        29
#define SJCC_NEXT_LOW         30
#define SJCC_NEXT_HIGH        31
#define SJCC_NEXT_FAST        32
// pads 13 - 16: pause 0(0ms) / 1(100ms) / 2(200ms) / 3(700ms)
#define SJCC_PAUSE0           33
#define SJCC_PAUSE1           34
#define SJCC_PAUSE2           35
#define SJCC_PAUSE3           36

// Encoders 1 - 5: OSCx Level
#define SJCC_OSC1_LVL         101
#define SJCC_OSC2_LVL         102
#define SJCC_OSC3_LVL         103
#define SJCC_OSC4_LVL         104
#define SJCC_OSC5_LVL         105
// Sliders 1 - 5: OSCx Frequency
#define SJCC_OSC1_FREQ        111
#define SJCC_OSC2_FREQ        112
#define SJCC_OSC3_FREQ        113
#define SJCC_OSC4_FREQ        114
#define SJCC_OSC5_FREQ        115

// Encoder 6 - 8: ENV CTR / DIST / SPEED
#define SJCC_ENV_TYPE         106
#define SJCC_DISTORTION        107
#define SJCC_SPEED            108
// Slider 6 - 8: ENV FREQ / NEXT LOUD / MASTER VOL
#define SJCC_ENV_FREQ         116
#define SJCC_NEXT_LOUD        117
#define SJCC_MASTER_VOL       118

// Joystick X: Pitch
// Joystick Y: Bend

// not used, but implemented:
#define SJCC_PITCH            255
#define SJCC_BEND             255

// ***** SPEAKJET SCP ***** //
// Serial Control Protocol
```

```

#ifdef _DEBUG_C
    #pragma mark -
    #pragma mark SCP
#endif

// escape character ('\') 0x5C to enter SCP Mode
#define SCP_ESCAPE                '\\\
#define SCP_SEL0                  '0'
#define SCP_SEL1                  '1'
#define SCP_SEL2                  '2'
#define SCP_SEL3                  '3'
#define SCP_SEL4                  '4'
#define SCP_SEL5                  '5'
#define SCP_SEL6                  '6'
#define SCP_SEL7                  '7'
#define SCP_EXIT                  'X'

#define SCP_READY                 'V'
#define SCP_CLEAR_BUFFER         'R'
#define SCP_START                 'T'
#define SCP_STOP                 'S'

#define SCP_MEMTYPE              'H'
#define SCP_MEMADDR              'J'
#define SCP_MEMWRT               'N'

#define SCP_RESET                'W'

// ***** SPEAKJET SCP REGISTERS ***** //
// SCP Registers & MAX Values
#ifdef _DEBUG_C
    #pragma mark -
    #pragma mark SCP REGISTERS & MAX VALUES
#endif

// == SCP_MEMTYPE (H) ==
#define SCP_MEMTYPE_REGISTER     '0'
#define SCP_MEMTYPE_EEPROM_H    '3'
#define SCP_MEMTYPE_EEPROM_L    '2'

// == SCP_MEMADDR (J) ==
// Envelope
#define SCP_ENV_FREQ             '0'
#define SCP_ENV_CTRL             '8'
/* Oscillator Frequency Register
#define SCP_OSC1_FREQ            '1'
#define SCP_OSC2_FREQ            '2'
#define SCP_OSC3_FREQ            '3'
#define SCP_OSC4_FREQ            '4'
#define SCP_OSC5_FREQ            '5' */

```

```
/* Oscillator Level Register (send each digit as ASCII!)
#define SCP_OSC1_LEVEL      11
#define SCP_OSC2_LEVEL      12
#define SCP_OSC3_LEVEL      13
#define SCP_OSC4_LEVEL      14
#define SCP_OSC5_LEVEL      15*/
// Distortion
#define SCP_DISTORTION      '6'
// Master
#define SCP_MASTER_VOLUME   '7'

// == SCP_MEMWRT (N) ==
//   ENVType (send ENVType + ENVState!)
#define SCP_ENV_SAW          0x0
#define SCP_ENV_SINE         0x1
#define SCP_ENV_TRIANGLE    0x2
#define SCP_ENV_SQUARE       0x3
//   ENVState (send ENVType + ENVState!)
#define SCP_ENV_OSC123      0x40
#define SCP_ENV_OSC45       0x80
// Maximum accepted values
#define SCP_FREQ_MAX        3999
#define SCP_LEVEL_MAX       31 // 63 MAX for Mixer 1
#define SCP_DISTORTION_MAX   255
#define SCP_MASTER_VOLUME_MAX 255

// ***** SPEAKJET MSA ***** //
// Mathematical Sound Architecture
#ifdef _DEBUG_C
    #pragma mark -
    #pragma mark MSA Control Codes
#endif

// 0 - 31 CONTROL CODES
#define MSA_PAUSE0          0
#define MSA_PAUSE1          1
#define MSA_PAUSE2          2
#define MSA_PAUSE3          3
#define MSA_PAUSE4          4
#define MSA_PAUSE5          5
#define MSA_PAUSE6          6
```

```
#define MSA_NEXTFAST      7
#define MSA_NEXTSLOW     8
#define MSA_NEXTHIGH     14
#define MSA_NEXTLOW      15

#define MSA_WAIT         16

#define MSA_VOLUME       20
#define MSA_SPEED        21
#define MSA_PITCH        22
#define MSA_BEND         23

#define MSA_PORTCTR      24
#define MSA_PORT         25

#define MSA_REPEAT       26

#define MSA_CALLPHRASE   28
#define MSA_GOTOPHRASE   29

#define MSA_DELAY        30
#define MSA_RESET        31

// 32 - 127 (Reserved)
#ifdef _DEBUG_C
    #pragma mark MSA (Reserved)
#endif

// 128 - 254 SOUNDCODES
#ifdef _DEBUG_C
    #pragma mark MSA Sound Codes
#endif

// MSA Sound Codes: Phonemes
#define MSAPH_IY         128
#define MSAPH_IH         129
#define MSAPH_EY         130
#define MSAPH_EH         131
#define MSAPH_AY         132
#define MSAPH_AX         133
#define MSAPH_UX         134
#define MSAPH_OH         135
#define MSAPH_AW         136
#define MSAPH_OW         137
#define MSAPH_UH         138
#define MSAPH_UW         139
#define MSAPH_MM         140
#define MSAPH_NE         141
#define MSAPH_NO         142
#define MSAPH_NGE        143
#define MSAPH_NGO        144
```

```
#define MSAPH_LE      145
#define MSAPH_LO      146
#define MSAPH_WW      147
#define MSAPH_RR      148
#define MSAPH_IYRR    149
#define MSAPH_EYRR    150
#define MSAPH_AXRR    151
#define MSAPH_AWRR    152
#define MSAPH_OWRR    153
#define MSAPH_EYIY    154
#define MSAPH_OHIY    155
#define MSAPH_OWIY    156
#define MSAPH_OHIH    157
#define MSAPH_IYEH    158
#define MSAPH_EHLL    159
#define MSAPH_IYUW    160
#define MSAPH_AXUW    161
#define MSAPH_IHWW    162
#define MSAPH_AYWW    163
#define MSAPH_OWWW    164
#define MSAPH_JH      165
#define MSAPH_VV      166
#define MSAPH_ZZ      167
#define MSAPH_ZH      168
#define MSAPH_DH      169
#define MSAPH_BE      170
#define MSAPH_BO      171
#define MSAPH_EB      172
#define MSAPH_OB      173
#define MSAPH_DE      174
#define MSAPH_DO      175
#define MSAPH_ED      176
#define MSAPH_OD      177
#define MSAPH_GE      178
#define MSAPH_GO      179
#define MSAPH_EG      180
#define MSAPH_OG      181
#define MSAPH_CH      182
#define MSAPH_HE      183
#define MSAPH_HO      184
#define MSAPH_WH      185
#define MSAPH_FF      186
#define MSAPH_SE      187
#define MSAPH_SO      188
#define MSAPH_SH      189
#define MSAPH_TH      190
#define MSAPH_TT      191
#define MSAPH_TU      192
#define MSAPH_TS      193
#define MSAPH_KE      194
#define MSAPH_KO      195
```

```
#define MSAPH_EK          196
#define MSAPH_OK          197
#define MSAPH_PE          198
#define MSAPH_PO          199

// MSA Sound Codes: Robot
#define MSAFX_ROBOT_0     200
#define MSAFX_ROBOT_1     201
#define MSAFX_ROBOT_2     202
#define MSAFX_ROBOT_3     203
#define MSAFX_ROBOT_4     204
#define MSAFX_ROBOT_5     205
#define MSAFX_ROBOT_6     206
#define MSAFX_ROBOT_7     207
#define MSAFX_ROBOT_8     208
#define MSAFX_ROBOT_9     209

// MSA Sound Codes: Alarms
#define MSAFX_ALARM_0     210
#define MSAFX_ALARM_1     211
#define MSAFX_ALARM_2     212
#define MSAFX_ALARM_3     213
#define MSAFX_ALARM_4     214
#define MSAFX_ALARM_5     215
#define MSAFX_ALARM_6     216
#define MSAFX_ALARM_7     217
#define MSAFX_ALARM_8     218
#define MSAFX_ALARM_9     219

// MSA Sound Codes: Beeps
#define MSAFX_BEEP_0      220
#define MSAFX_BEEP_1      221
#define MSAFX_BEEP_2      222
#define MSAFX_BEEP_3      223
#define MSAFX_BEEP_4      224
#define MSAFX_BEEP_5      225
#define MSAFX_BEEP_6      226
#define MSAFX_BEEP_7      227
#define MSAFX_BEEP_8      228
#define MSAFX_BEEP_9      229

// MSA Sound Codes: Biological
#define MSAFX_BIO_0       230
#define MSAFX_BIO_1       231
#define MSAFX_BIO_2       232
#define MSAFX_BIO_3       233
#define MSAFX_BIO_4       234
#define MSAFX_BIO_5       235
#define MSAFX_BIO_6       236
#define MSAFX_BIO_7       237
#define MSAFX_BIO_8       238
```

```
#define MSAFX_BIO_9          239

// MSA Sound Codes: DTMF
#define MSAFX_DTMF_0        240
#define MSAFX_DTMF_1        241
#define MSAFX_DTMF_2        242
#define MSAFX_DTMF_3        243
#define MSAFX_DTMF_4        244
#define MSAFX_DTMF_5        245
#define MSAFX_DTMF_6        246
#define MSAFX_DTMF_7        247
#define MSAFX_DTMF_8        248
#define MSAFX_DTMF_9        249
#define MSAFX_DTMF_S        250
#define MSAFX_DTMF_R        251

// MSA Sound Codes: Misc
#define MSAFX_SONAR_PING    252
#define MSAFX_PISTOLSHOT    253
#define MSAFX_WOW           254

// 255: End of Phrase
#ifdef _DEBUG_C
    #pragma mark MSA EOP
#endif

#define MSA_EOP             255

#endif /* _IIC_SPEAKJETDEFINES_H */
```

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