

# 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_BEND          108
// Slider 6 - 8: BEND / NEXT LOUD / MASTER VOL
#define SJCC_SPEED         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

// ***** SPEAKJET SCP REGISTERS ***** //
// SCP Registers & MAX Values
```

```
#ifdef _DEBUG_C
    #pragma mark -
    #pragma mark SCP REGISTERS & MAX VALUES
#endif

// Envelope
#define SCP_ENV_FREQ      0
#define SCP_ENV_CTRL      8
//   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

// Oscillators
#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
#define SCP_FREQ_MAX      3999

#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
#define SCP_LEVEL_MAX     31    // 63 MAX for Mixer 1

// Distortion
#define SCP_DISTORTION     6
#define SCP_DISTORTION_MAX 255

// Master
#define SCP_MASTER_VOLUME  7
#define SCP_MASTER_VOLUME_MAX 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          0x5C
#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 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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