

# SCP and MSA #defines for the SpeakJet

**Important: 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 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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