

Because the information in the SpeakJet Manual is relatively wide spreaded, this page gives a quick overview of the control possibilities of the Speakjet:

# MSA (Mathematical Sound Architecture)

MSA commands are stored in the 64-Byte input buffer and are executed in the order they are received.

## MSA Controls

An 'X' indicates that a second number should follow as parameter.

### Pause Control

000: Pause 0 ms  
001: Pause 100 ms  
002: Pause 200 ms  
003: Pause 700 ms

004: Pause 30 ms  
005: Pause 60 ms  
006: Pause 90 ms

016: Wait *Watch out! Waits for event input line or SCP-Start command!*

030: Delay, X number of 10 ms intervals to delay before continuing on to the next code, accepts 0-255

### Next Sound Control

007: Play next sound fast  
008: Play next sound slow

014: Play next sound high  
015: Play next sound low

### Volume/Pitch/Speed/Bend Control

020: Volume, X sets Master Volume Level, accepts 0-127

021: Speed, X Play Speed, default 114, accepts 0-127

022: Pitch, X Pitch in Hertz, only for voiced sounds, default 88, accepts 0-255 (=32kHz..240kHz)

023: Bend, *X Sets the Frequency Band (from deep hollow to high metallic), default 5, accepts 0-15*

## Port Control

024: PortCtr, *X binaurally encoded output line control, see manual for details, default 7, accepts 0-7*

025: Port, *X port output value, see manual for details, default 0, accepts 0-7*

## Phrase Control

026: Repeat, *X repeats the next code x-times, accepts 0-255*

028: Call Phrase, *X which EEPROM phrase to play, max 3 level deep nesting*

029: Goto Phrase, *X which EEPROM phrase to play*

255: End of Phrase

## Reset

031: Reset Defaults

## MSA Sound Codes

128..254: MSA Sound Phrases and Effects, see [SpeakJet Definition List](#).

# SCP (Serial Control Protocol)

SCP commands are executed immediately and provide control over the 5-channel synthesizer as well as accessing the internal speakjet EEPROM.

## Entering SCP

'\0' to enter SCP

## SCP Commands

'H': Store Memory Type *accepts 0 and 32*

- '0H': Write a register's value
- '32H': Write to the internal EEPROM

'J': Memory Address

- '0J': Envelope Freq
- '1J': OSC1 Freq .. '5J': OSC5 Freq
- '6J': Distortion
- '7J': Master Volume
- '8J': Envelope Control
- '11J': OSC1 Vol .. '15J': OSC5 Vol

'N': Store Memory

'R': Clear Buffer

'S': Stop Enunciating

'T': Start Enunciating

'V': ACK

'W': Hard Reset

## Exiting SCP

'X' or '\A'

## Examples

\0 V X\*

*Enters SCP-Mode, enunciates READY and exits SCP-mode*

8J 0N 1J 500N 11J 16N\*

*1st OSC freq 500 and vol 16*

0J 32H 01N\*

*write 0x1 to the first location of internal EEPROM*

8J 00N\*

*set env-type to SAW*

8J 10N\*

*set env-type to TRIANGLE*

\* *Don't send spaces, this is just for readability!*

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Last update: **2006/12/05 14:03**

