SP0256 Allophones

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Contents

SP0256-AL2 Allophone List

```
Num Name  Example  Funny    Actual       Num Name  Example  Funny    Actual
00h PA1    PAUSE     10ms    6.4ms        20h /AW/  Out       370ms  254.8ms
01h PA2    PAUSE     30ms   25.6ms        21h /DD2/ Do        160ms   72.1ms
02h PA3    PAUSE     50ms   44.8ms        22h /GG3/ Wig       140ms  110.5ms
03h PA4    PAUSE    100ms   96.0ms        23h /VV/  Vest      190ms  127.4ms
04h PA5    PAUSE    200ms  198.4ms        24h /GG1/ Got        80ms   72.1ms
05h /OY/   Boy      420ms  291.2ms        25h /SH/  Ship      160ms  198.4ms
06h /AY/   Sky      260ms  172.9ms        26h /ZH/  Azure     190ms  134.1ms
07h /EH/   End       70ms   54.6ms        27h /RR2/ Brain     120ms   81.9ms
08h /KK3/  Comb     120ms   76.8ms        28h /FF/  Food      150ms  108.8ms
09h /PP/   Pow      210ms  147.2ms        29h /KK2/ Sky       190ms  134.4ms
0Ah /JH/   Dodge    140ms   98.4ms        2Ah /KK1/ Can't     160ms  115.2ms
0Bh /NN1/  Thin     140ms  172.9ms        2Bh /ZZ/  Zoo       210ms  148.6ms
0Ch /IH/   Sit       70ms   45.5ms        2Ch /NG/  Anchor    220ms  200.2ms
0Dh /TT2/  To       140ms   96.0ms        2Dh /LL/  Lake      110ms   81.9ms
0Eh /RR1/  Rural    170ms  127.4ms        2Eh /WW/  Wool      180ms  145.6ms
0Fh /AX/   Succeed   70ms   54.6ms        2Fh /XR/  Repair    360ms  245.7ms
10h /MM/   Milk     180ms  182.0ms        30h /WH/  Whig      200ms  145.2ms
11h /TT1/  Part     100ms   76.8ms        31h /YY1/ Yes       130ms   91.0ms
12h /DH1/  They     290ms  136.5ms        32h /CH/  Church    190ms  147.2ms
13h /IY/   See      250ms  172.9ms        33h /ER1/ Letter    160ms  109.2ms
14h /EY/   Beige    280ms  200.2ms        34h /ER2/ Fir       300ms  209.3ms
15h /DD1/  Could     70ms   45.5ms        35h /OW/  Beau      240ms  172.9ms
16h /UW1/  To       100ms   63.7ms        36h /DH2/ Bath      240ms  182.0ms
17h /AO/   Aught    100ms   72.8ms        37h /SS/  Vest       90ms   64.0ms
18h /AA/   Hot      100ms   63.7ms        38h /NN2/ No        190ms  136.5ms
19h /YY2/  Yes      180ms  127.4ms        39h /HH2/ Hoe       180ms  126.0ms
1Ah /AE/   Hat      120ms   81.9ms        3Ah /OR/  Store     330ms  236.6ms
1Bh /HH1/  He       130ms   89.6ms        3Bh /AR/  Alarm     290ms  200.2ms
1Ch /BB1/  Business  80ms   36.4ms        3Ch /YR/  Clear     350ms  245.7ms
1Dh /TH/   Thin     180ms  128.0ms        3Dh /GG2/ Guest      40ms   69.4ms
1Eh /UH/   Book     100ms   72.8ms        3Eh /EL/  Saddle    190ms  136.5ms
1Fh /UW2/  Food     260ms  172.9ms        3Fh /BB2/ Business   50ms   50.2ms
```

- Mind that completion of an allophone doesn't mute the voice generator (it'll keep repeating the end of the allophone until receiving a new allophone). To mute the voice generator, output a short pause (eg. PA1) after your last allophone.
- The "Funny" timings are from the SP0256-AL2 data sheet (these values are totally wrong).

Other Allophone/Word Sets

For curiosity, below are some other SP0256-xx variants (none of the known CPC devices are using that variants though).

SP0256-012 Word List

This chip is used in the "Intellivoice" expansion module for Mattel's Intellivision.

```
00h (SPB640      08h One        14h Thirteen    20h Seventy
    Speech       09h Two        15h Fourteen    21h Eighty
    FIFO)        0Ah Three      16h Fifteen     22h Ninety
01h pause4       0Bh Four       17h Sixteen     23h Hundred
02h pause3       0Ch Five       18h Seventeen   24h Thousand
03h pause2       0Dh Six        19h Eighteen    25h -teen
04h pause1       0Eh Seven      1Ah Nineteen    26h -ty
05h pause0       0Fh Eight      1Bh Twenty      27h Press
06h "Mattel      10h Nine       1Ch Thirty      28h Enter
    Electronics  11h Ten        1Dh Fourty      29h Or
    Presents"    12h Eleven     1Eh Fifty       2Ah And
07h Zero         13h Twelve     1Fh Sixty
```

There isn't much known about the SPB640 FIFO, as far as I understand, it does have three functions: It can hold up to 64 word/allophone numbers (to be injected to A1..A8 pins of the SP0256), it can hold opcodes/parameters (to be injected to SER IN pin of the SP0256), and it includes a general purpose I/O port.

SP0256-017 Word List

```
00h Oh          09h Nine       12h Eighteen    1Bh Hour
01h One         0Ah Ten        13h Nineteen    1Ch Minute
02h Two         0Bh Eleven     14h Twenty      1Dh Hundred Hour
03h Three       0Ch Twelve     15h Thirty      1Eh Good Morning
04h Four        0Dh Thirteen   16h Forty       1Fh Attention Please
05h Five        0Eh Fourteen   17h Fifty       20h Please Hurry
06h Six         0Fh Fifteen    18h It is       21h Melody A
07h Seven       10h Sixteen    19h A.M.        22h Melody B
08h Eight       11h Seventeen  1Ah P.M.        23h Melody C
```

SP0256-019 (or rather SP0256B-019) Allophone/Word/Phrase List

This chip is used in "The Voice", an expansion module for the Odyssey 2. The chip contains the following allophones and words:

```
80h..BFh Allophones (same as 00h..3Fh on SP0256-AL2)    C0h "Enemy"
C1h "All clear"    C2h "Please"    C3h "Get off"      C4h "Open fire"
C5h "Watch out"    C6h "Mercy"     C7h "Hit it"       C8h "You blew it"
C9h "Do it again"  CAh "Incredible" FAh "U.F.O."      FBh "Monster!"
```

Not sure why bit7 is set in the codes (it should be written like so to the O2 I/O ports, but maybe the bit isn't actually passed to the SP0256 chip)? Additionally, the expansion module contains 3 built-in speech ROMs with sound effects and various words/phrases like "Amazing", "Come on", "Outch", etc. Moreover, Odyssey 2 game cartridges can contain up to 5 external speech ROMs. For details see "Odyssey 2 Technical Specs" from Daniel Boris.

Downloads

- Distorted SP0256-AL2 allophones as 8bit WAV files - **Caution** this file contains corrupted AL2 allophones (apparently recorded without issuing a PAUSE after each allophone, so the allophones have wrong length. For example, /A0/ should repeat 8 times, but in the WAV file it accidently repeats 10.5 times) (note: instead of using the physical durations, the length of the recordings seems to be based on the lengths specified in the datasheet, which are totally wrong)

Category: Music and sound

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