

Blue Alpha Electronics

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Thank you for buying 'The VoiceBox' for your SAM Coupé. We hope that you are pleased with your purchase and that you will continue to support us in supporting your home computer. Please do not forget to send us your guarantee card as soon as possible.

Introduction.

The VoiceBox is an allophone based speech synthesizer. It comes complete with its own driver software which enables you to type in English text, which is converted to speech. A written description of software to drive the VoiceBox from your own BASIC or machine code programs is given in this document.

What you should have.

This manual, a guarantee card, a white plastic box with a connector on one side, and a disk (or tape).

Connecting to the Coupé

Switch your computer OFF at the mains. Never connect or disconnect any interface to your computer with the power on, as this could damage your interface and/or your computer. Plug the VoiceBox into the Expansion Euroconnector (see your Coupé User Guide) at the rear of your machine (If you have any other interfaces connected to the Euroconnector, you will have to disconnect them). Now switch on your Coupé. You should get the normal start-up message.

Hearing your Coupe speak.

Turn the volume up on your TV, monitor or stereo. If you have a tape based system, press F7 and start the tape deck. If you have a disk based system, boot the system from one of your own, bootable disks, and then insert the VoiceBox disk in the left hand drive and press F9.

A demonstration of the Coupe speaking should now be loading. It autoruns when loaded. The text to speech converter will then load automatically.

You may now type English text and upon pressing RETURN, the computer will convert the English to a phonetic representation of the speech, and then say the speech. You may vary the speed by pressing 1 to 5 followed by RETURN at the "Enter your text :" prompt. The program may be exited by typing 'STOP.' (without the quotes). Quite often the correct speech will be obtained by an irregular spelling of the words.

If you can not hear the speech by following the above procedure, please check that you have followed the above instructions exactly, and if it still does not appear to work, please ring us on the above number.

Theory of operation.

It is important to understand the operation of the VoiceBox before attempting to drive it from within your own programs. The VoiceBox can be interrogated as to whether it is connected to the computer. If it is connected, it can be sent a code corresponding to an allophone, and then polled to see if it has finished saying the current allophone, and then sent the next allophone. (An allophone is a basic building block of speech, from which any word can be constructed.) An example of a BASIC subroutine to

accomplish this is given in the next section. It should be noted that the letters which make up an English word are not necessarily the same as those suitable to be sent to the VoiceBox

Using the VoiceBox from your own programs

The VoiceBox appears to the computer as a single IO mapped port, at the IO address FF7F Hex, or 65407 Decimal. The input port responds with the VoiceBox signature of 24 on its uppermost 7 bits, and the Least Significant Bit (LSB) is the BUSY status of the VoiceBox. The VoiceBox must be sent a silence code (0) at the end of each word, or the last allophone will be repeated indefinitely.

For full handshaking operation, the VoiceBox should be driven as shown in the following BASIC subroutine:

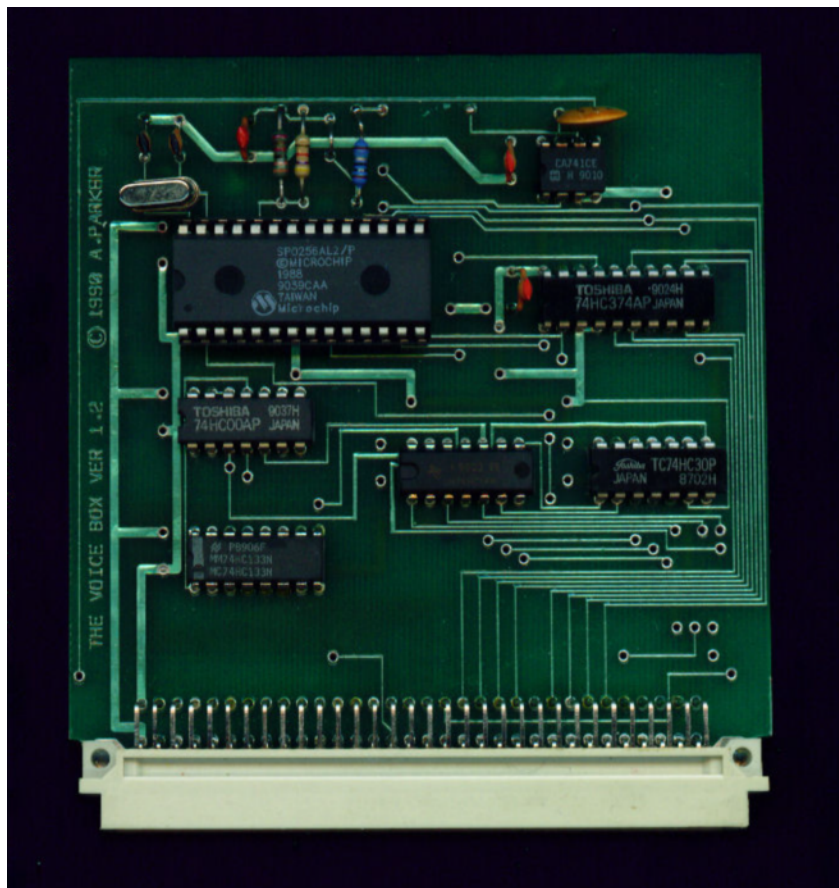
1. Poll port 65407.	1000 LET Inport = IN 65107
2. Is the VolceBox	1010 LET sig = Inport BAND 254
connected ?	1020 IF sig <> 24 THEN stop
3. Is It still speaking ?	1030 LET busy -=IN 65407 BAND 1
	1040 IF busy =1 THEN GOTO 1030
4.Output the allophone.	1050 OUT 65407,allophone
	1060 RETURN

where : allophone, busy, sig and inport are variable names.

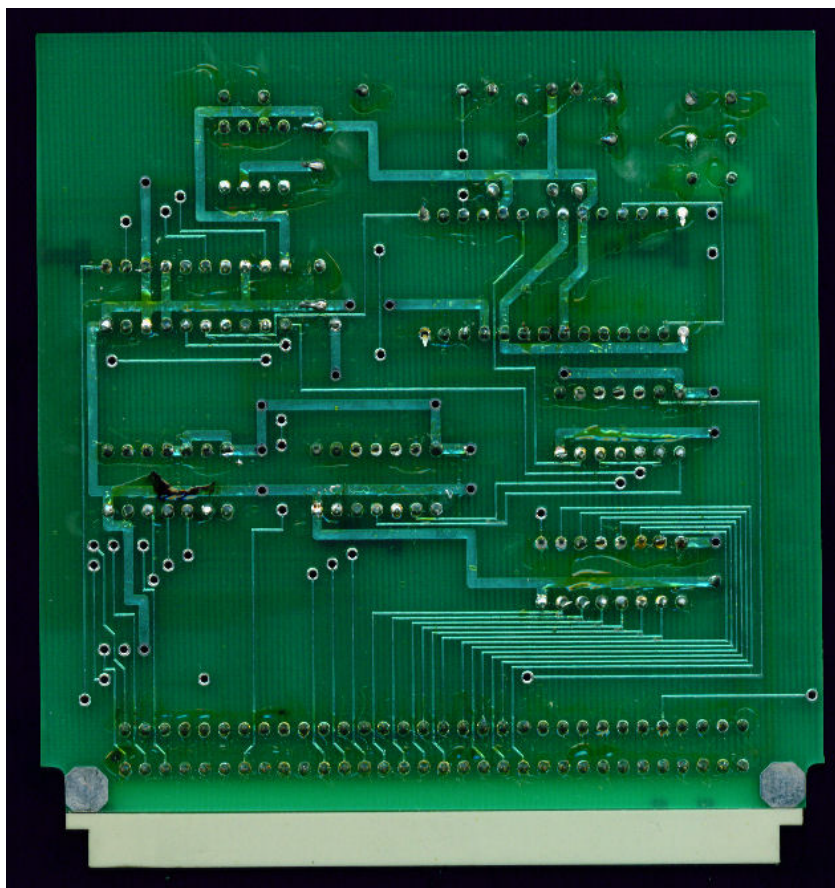
This subroutine should be called for each allophone In the speech to be said. Machine Code programmers should easily be able to convert the above into the corresponding Z80 mnemonics.

The allophones thus far referred to may be found in the final section of this manual. Each letter is followed by the allophone occurrence In an example word, followed by the corresponding code.

Sam Coupé VoiceBox



Board scan



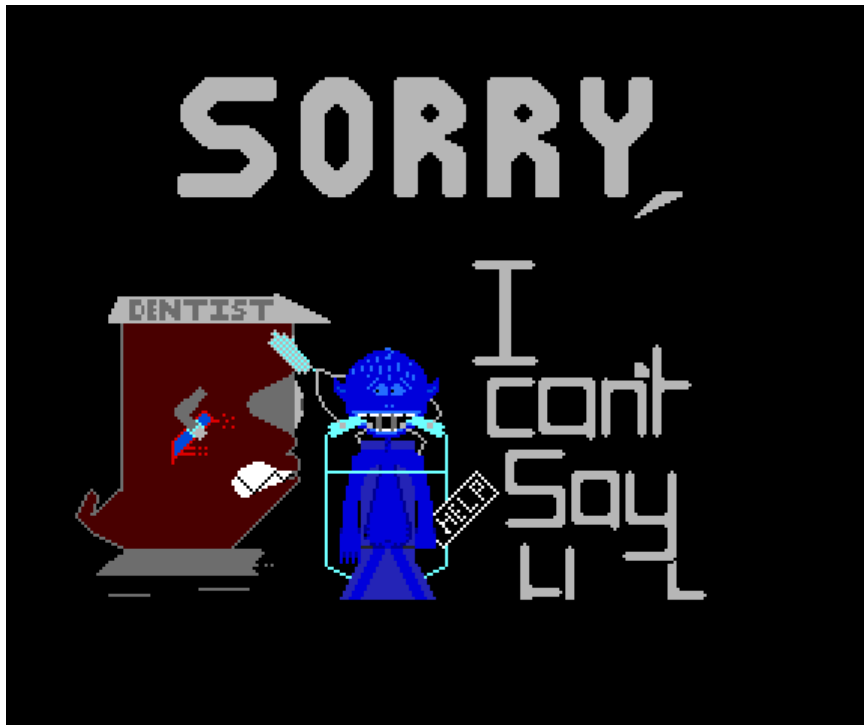


The voiceBox

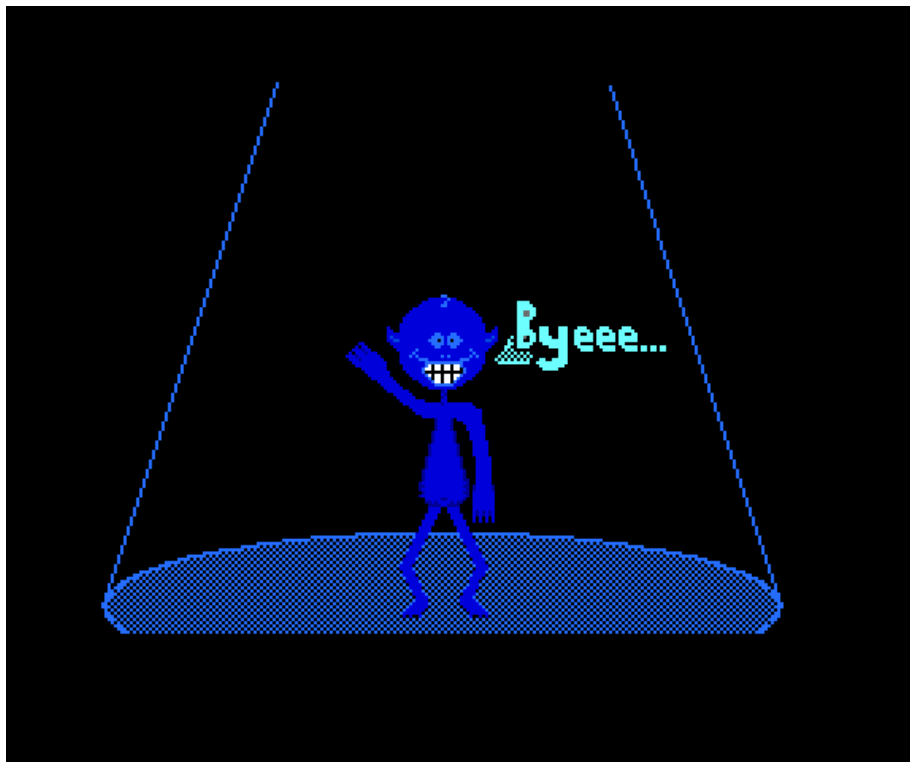


The Blue Alpha`s software running on Sim Coupé.

The Sim Coupé emulator dose not support the
Sam VoiceBox at the moment.



This screen is displayed when the software cannot make the speech
chip say a word that's been entered



Quit program screen.

"I don't know of any software written to take advantage of the VoiceBox. Blue Alpha Electronics when out of business and support stopped. Not many of these VoiceBoxes were made and are quite rare to find. The software & three page manual for me was very disappointing. So, when I first got my VoiceBox I tried to right a small demo program to see what speech it could say. Screen shots and listing follows not very well programmed but it works !."

Steve Parry-Thomas

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Sam Voice Box Demo
By Steve Parry-Thomas

1-Information.
2-Letters (A to Z).
3-Months.
4-Days of the week.
5-Numbers.
6-Some words.
```

Sam Voice Box Information

The chip that makes your Sam talk is a SP0256 allophone based speech processor. The allophone speech synthesis technique provides the user with the ability to synthesize an unlimited vocabulary. Fifty nine speech sounds (called allophones) and five pauses are used to make up any word.

The allophone set contains two or three versions of some phonemes (a single allophone). To speak a word all you need to do, is to string a group of allophones together.

Eg. 'Computer' uses allophones :- KK1,AX,MM,PP1,YY1,UW1,TT1,ER

'Computer' allophone codes are :- 42,15,16,9,49,22,13,51

The codes are then sent out to port 65407, always sent a '0' code at the end. This is a stop signal, the last phoneme sent will be repeated if it is not sent.

On the next page is a list of codes, Allophones, sample words and duration.

Have a look at this basic program lines 10000 to 10480. All the speech for the demo is there.

Press any key to continue ...

Sam Voice Box Information							
Code	Allophone	sample	duration	Code	Allophone	sample	duration
0	PA1	PAUSE	10MS	17	TT1	PART	100ms
1	PA2	PAUSE	13MS	18	DH1	THEY	290ms
2	PA3	PAUSE	50MS	19	IY	SEE	250ms
3	PA4	PAUSE	100MS	20	EY	BEIGE	280ms
4	PA5	PAUSE	200MS	21	DD1	COULD	70ms
5	OY	Boy	420MS	22	UM1	TO	100ms
6	AY	Sky	260MS	23	AO	AUGHT	100ms
7	EH	End	70MS	24	AA	HOT	100ms
8	KK2	COMB	120MS	25	YY2	YES	180ms
9	PP	POW	210MS	26	AE	HAT	120ms
10	JH	DODGE	140MS	27	HH1	HE	130ms
11	NN1	THIN	140MS	28	BB1	BUSINESS	80ms
12	IH	SIT	70MS	29	TH	THIN	190ms
13	TT2	TO	140MS	30	UH	BOOK	100ms
14	RR1	RURAL	170MS	31	UM2	FOOD	260ms
15	AX	SUCCEED	70MS	32	AW	OUT	370ms

Press any key for the rest....

Sam Voice Box Information							
Code	Allophone	sample	duration	Code	Allophone	sample	duration
33	DD2	DO	160MS	49	YY1	YES	130ms
34	GG3	WIG	140MS	50	CH	CHURCH	190ms
35	UV	VEST	190MS	51	ER1	FIR	160ms
36	GG1	GOT	80MS	52	ER2	FIR	300ms
37	SH	SHIP	160MS	53	OW	BEAU	240ms
38	ZH	AZURE	190MS	54	DH2	THEY	240ms
39	RR1	BRAIN	120MS	55	SS	VEST	90ms
40	FF	FOOD	150MS	56	NN2	NO	190ms
41	KK2	SKY	190MS	57	HH2	HOE	180ms
42	KK1	CAN'T	160MS	58	OR	STORE	330ms
43	ZZ	ZOO	210MS	59	AR	ALARM	290ms
44	NG	ANCHOR	220MS	60	YR	CLEAR	350ms
45	LL	LAKE	110MS	61	GG2	GUEST	40ms
46	WJ	WOOL	180MS	62	EL	SADDLE	190ms
47	XR	REPAIR	360MS	63	BB2	BUSINESS	50ms
48	WH	WHIG	200MS				

End - press any key for menu...

Sam Coupé VoiceBox

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5 PALETTE
  LIST FORMAT 2
  CLS
10 DO
  MODE 4
  menu
  LOOP
50 STOP
100 DEF PROC menu
105 LOCAL c
110 CLS
115 PRINT AT 0,7;"Sam Voice Box Demo"; AT 1,5;"By Steve Parry-
Thomas"
120 PRINT AT 3,0;"1-Information."'"2-Letters (A to Z).'"'"3-
Months."'"4-Da
ys of the week."'"5-Numbers."'"6-Some words."
130 GET c
135
140 ON c
  info
  letters
  months
  weekdays
  numbers
  words
199 END PROC
200 DEF PROC escape
205 LOCAL k$
  LET k$=INKEY$
210 IF k$="x" OR k$="X" THEN CLEAR
  RUN
220 END PROC
400 DEF PROC info
405 MODE 3
  CLS
  LOCAL t,d$
  RESTORE 10500
410 PRINT AT 0,0; PAPER 2; PEN 0;"
Sam Voice Box
Information"
420 FOR t=1 TO 45
422 READ d$
  IF d$="255" THEN PAUSE 0
  PRINT AT 1,0;
  LET d$=""
  GO TO 422
430 PRINT d$;
449 NEXT t
  PAUSE 0
450 END PROC
500 DEF PROC words
505 CLS
  LOCAL a,a$,x
  RESTORE 10152
  PRINT AT 0,8;"Press X for menu"
510 FOR a=1 TO 165
  READ a$
  PRINT AT 10,5;"
  PRINT AT 10,5;a$
515 DO
  READ x

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        EXIT IF x=255
        voice x
    LOOP
    endvoice
    escape
NEXT a
520 END PROC
600 DEF PROC numbers
605   CLS
        LOCAL a,a$,x
        RESTORE 10052
        PRINT AT 0,8;"Press X for menu"
610   FOR a=1 TO 31
        READ a$
        PRINT AT 10,5;"          "
        PRINT AT 10,5;a$
615   DO
        READ x
        EXIT IF x=255
620   voice x
        LOOP
        endvoice
        escape
    NEXT a
630 END PROC
750 DEF PROC weekdays
755   CLS
        LOCAL a,a$,x
        RESTORE 10114
        PRINT AT 0,8;"Press X for menu"
760   FOR a=1 TO 7
        READ a$
        PRINT AT 10,5;"          "
        PRINT AT 10,5;a$
765   DO
        READ x
        EXIT IF x=255
770   voice x
        LOOP

775   endvoice
        escape
    NEXT a
790 END PROC
850 DEF PROC months
855   CLS
        LOCAL a,a$,x
865   RESTORE 10128
        PRINT AT 0,8;"Press X for menu"
870   FOR a=1 TO 12
875   READ a$
        PRINT AT 10,5;"          "

        PRINT AT 10,5;a$
880   DO
885   READ x
895   EXIT IF x=255
896   voice x
897   LOOP
        endvoice
        escape

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Sam Coupé VoiceBox

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        NEXT a
898 END PROC
900 DEF PROC letters
905   CLS
        LOCAL a,a$,x
        RESTORE 10000
        PRINT AT 0,8;"Press X for menu"
915   FOR a=1 TO 26
920     READ a$
        PRINT AT 10,10; a$
925     DO
930       READ x
935       EXIT IF x=255
940       voice x
945       LOOP
        endvoice
        escape
        NEXT a
950 END PROC
960 DEF PROC endvoice
961   voice 0
962   PAUSE 10
963 END PROC
1000 DEF PROC voice x
1005   LOCAL inport,sig,busy
1010   LET inport=IN 65407,sig=inport BAND 254
1020   IF sig<>24 THEN CLS
        PRINT AT 10,6;"No Voice Box Present"
        PAUSE 0
        CLEAR
        RUN
1025   LET busy=IN 65407 BAND 1
1030   IF busy=1 THEN GO TO 1025
1035   OUT 65407,x
1040 END PROC
10000 DATA "A",20,255
10002 DATA "B",63,19,255
10004 DATA "C",55,55,19,255
10006 DATA "D",33,19,255
10008 DATA "E",19,255
10010 DATA "F",7,7,40,40,255
10012 DATA "G",10,19,255
10014 DATA "H",20,1,2,50,255
10016 DATA "I",24,6,255
10018 DATA "J",10,7,20,255
10020 DATA "K",42,7,20,255
10022 DATA "L",7,7,62,255
10024 DATA "M",7,7,16,255
10026 DATA "N",7,7,11,255
10028 DATA "O",53,255
10030 DATA "P",9,19,255
10032 DATA "Q",42,49,31,255
10034 DATA "R",59,255
10036 DATA "S",7,7,55,55,255
10038 DATA "T",13,19,255
10040 DATA "U",49,31,255
10042 DATA "V",35,19,255
10044 DATA "W",33,15,1,63,49,31,255
10046 DATA "X",7,7,2,41,55,55,255
10048 DATA "Y",46,6,255
10050 DATA "Z",43,7,21,255

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Sam Coupé VoiceBox

10052 DATA "ZERO",43,60,53,255
10054 DATA "ONE",46,15,15,11,255
10056 DATA "TWO",13,31,255
10058 DATA "THREE",29,14,19,255
10060 DATA "FOUR",40,40,58,255
10062 DATA "FIVE",40,40,6,35,255
10064 DATA "SIX",55,55,12,12,2,41,55,255
10066 DATA "SEVEN",55,55,7,7,35,12,11,255
10068 DATA "EIGHT",20,2,13,255
10070 DATA "NINE",11,24,6,11,255
10072 DATA "TEN",13,7,7,11,255
10074 DATA "ELEVEN",12,45,7,7,35,12,11,255
10076 DATA "TWELVE",13,48,7,7,45,35,255
10078 DATA "THIRTEEN",29,51,1,2,13,19,11,255
10080 DATA "FOURTEEN",40,58,1,2,13,19,11,255
10082 DATA "FIFTEEN",40,12,40,1,2,13,19,11,255
10084 DATA "SIXTEEN",55,55,12,2,41,55,1,2,13,19,11,255
10086 DATA "SEVENTEEN",55,55,7,35,29,11,1,2,13,19,11,255
10088 DATA "EIGHTEEN",20,1,2,13,19,11,255
10090 DATA "NINETEEN",11,6,11,1,2,13,19,11,255
10092 DATA "TWENTY",13,48,7,7,11,1,2,13,19,255
10094 DATA "THIRTY",29,52,1,2,13,19,255
10096 DATA "FORTY",40,58,2,13,19,255
10098 DATA "FIFTY",40,40,12,40,40,1,2,13,19,255
10100 DATA "SIXTY",55,55,12,2,41,55,1,2,13,19,255
10102 DATA "SEVNTY",55,55,7,35,11,1,2,13,19,255
10104 DATA "EIGHTY",20,2,13,19,255
10106 DATA "NINETY",11,6,11,2,13,19,255
10108 DATA "HUNDRED",57,15,15,11,11,1,33,39,12,12,0,21,255
10110 DATA "THOUSAND",29,24,32,43,29,0,0,11,21,255
10112 DATA "MILLION",16,12,12,45,49,15,11,255
10114 DATA "SUNDAY",55,55,15,15,11,1,33,20,255
10116 DATA "MONDAY",16,15,15,11,1,33,20,255
10118 DATA "TUESDAY",13,31,43,1,33,20,255
10120 DATA "WEDNESDAY",46,7,7,11,43,1,33,20,255
10122 DATA "THURSDAY",29,52,43,1,33,20,255
10124 DATA "FIRDAY",40,39,6,1,33,20,255
10126 DATA "SATURDAY",55,55,26,2,13,1,33,20,255
10128 DATA "JANUARY",10,26,26,11,25,47,19,255
10130 DATA "FEBRUARY",40,7,7,1,28,39,31,47,19,255
10132 DATA "MARCH",16,59,2,50,255
10134 DATA "APRIL",20,2,9,39,12,12,45,255
10136 DATA "MAY",16,20,255
10138 DATA "JUNE",10,31,11,255
10140 DATA "JULY",10,22,45,6,255
10142 DATA "AUGUST",23,23,1,61,15,55,2,17,255
10144 DATA "SEPTEMBER",55,55,7,2,9,2,13,7,7,3,28,28,51,255
10146 DATA "OCTOBER",24,1,41,2,13,53,0,63,51,255
10148 DATA "NOVEMBER",56,53,35,7,7,16,0,63,51,255
10150 DATA "DECEMBER",21,19,55,55,7,7,16,0,63,51,255
10152 DATA "ALARM",15,45,59,16,255
10154 DATA "BATHE",63,7,54,255
10156 DATA "BATHER",63,20,54,51,255
10158 DATA "BATHING",63,20,54,12,44,255
10160 DATA "BEER",63,60,255
10162 DATA "BREAD",28,39,7,7,0,21,255
10164 DATA "BY",63,24,6,255
10166 DATA "CALENDER",42,26,26,45,7,11,1,33,51,255
10168 DATA "CLOCK",42,45,24,24,2,41,255
10170 DATA "CLOWN",42,45,32,11,255
10172 DATA "CHECK",50,7,7,2,41,255

10174 DATA "cheched",50,7,7,2,41,1,13,255
 10176 DATA "checker",50,7,7,2,42,51,255
 10178 DATA "checkers",50,7,7,2,42,51,43,255
 10180 DATA "cheching",50,7,7,2,42,12,44,255
 10182 DATA "checks",50,7,7,2,42,55,255
 10184 DATA "cognitive",8,24,24,34,11,12,2,13,12,35,255
 10186 DATA "collide",8,15,45,6,21,255
 10188 DATA "computer",42,15,16,9,49,22,13,51,255
 10190 DATA "cookie",8,30,42,19,255
 10192 DATA "coop",8,31,1,9,255
 10194 DATA "correct",42,52,7,7,1,41,1,17,255
 10196 DATA "corrected",42,52,7,7,1,41,1,13,12,1,21,255
 10198 DATA "correcting",42,52,7,7,1,41,1,13,12,44,255
 10200 DATA "corrects",42,52,7,7,1,41,1,17,55,255
 10202 DATA "crown",42,39,32,11,255
 10204 DATA "date",33,20,2,13,255
 10206 DATA "daughter",33,23,13,51,255
 10208 DATA "day",33,7,20,255
 10210 DATA "divided",33,12,35,6,1,33,12,1,21,255
 10212 DATA "emotional",19,16,53,37,15,11,15,62,255
 10214 DATA "engage",7,7,0,11,36,20,1,10,255
 10216 DATA "engagement",7,7,0,11,36,20,1,10,16,7,7,11,1,2,13,255
 10218 DATA "engages",7,7,0,11,36,20,1,10,12,43,255
 10220 DATA "engaging",7,7,0,11,36,20,1,10,12,44,255
 10222 DATA "enrage",7,11,14,20,1,10,255
 10224 DATA "enraged",7,11,14,20,1,10,1,21,255
 10226 DATA "enrages",7,11,14,20,1,10,12,43,255
 10228 DATA "enraging",7,11,14,20,1,10,12,44,255
 10230 DATA "escape",7,55,55,2,42,1,2,9,255
 10232 DATA "escaped",7,55,55,2,42,1,2,9,1,13,255
 10234 DATA "escapes",7,55,55,2,42,1,2,9,55,255
 10236 DATA "escaping",7,55,55,2,42,1,2,9,12,44,255
 10238 DATA "equal",19,1,2,8,48,15,62,255
 10240 DATA "equals",12,1,2,8,48,15,62,43,255
 10242 DATA "error",7,47,58,255
 10244 DATA "extent",7,42,55,13,7,7,11,13,255
 10246 DATA "fir",40,52,255
 10248 DATA "freeze",40,40,14,19,43,255
 10250 DATA "freezer",40,40,14,19,43,51,255
 10252 DATA "freezers",40,40,14,19,43,51,43,255
 10254 DATA "freezing",40,40,14,19,43,12,44,255
 10256 DATA "frozen",40,40,14,53,43,7,11,255
 10258 DATA "gauge",36,20,1,10,255
 10260 DATA "gauged",36,20,1,10,1,21,255
 10262 DATA "gauges",36,20,1,10,12,43,255
 10264 DATA "gauging",36,20,1,10,12,44,255
 10266 DATA "hello",27,7,45,15,53,255
 10268 DATA "hour",32,51,255
 10270 DATA "infinitive",12,11,40,40,12,12,11,12,1,2,13,10,35,255
 10272 DATA "intrigue",12,11,2,13,39,19,0,34,255
 10274 DATA "intrigued",12,11,2,13,39,19,0,34,1,21,255
 10276 DATA "intrigues",12,11,2,13,39,19,0,34,43,255
 10278 DATA "intriguing",12,11,2,13,39,19,0,34,12,44,255
 10280 DATA
 "investigate",12,12,11,35,7,7,55,1,2,13,12,0,36,20,1,13,255
 10282 DATA
 "investigated",12,12,11,35,7,7,55,1,2,13,12,0,36,20,1,13,12,1,21,25
 5
 10284 DATA
 "investigater",12,12,11,35,7,7,55,1,2,13,12,0,36,20,1,13,51,255

10286 DATA
 "investigaters",12,12,11,35,7,7,55,1,2,13,12,0,36,20,1,13,51,43,255
 10288 DATA
 "investigates",12,12,11,35,7,7,55,1,2,13,12,0,36,20,1,17,55,255
 10290 DATA
 "investigating",7,7,11,35,7,7,55,1,2,13,12,0,36,20,1,13,12,44,255
 10292 DATA "key",42,19,255
 10294 DATA "legislate",45,7,7,1,10,10,55,55,45,20,1,2,13,255
 10296 DATA "legislated",45,7,7,1,10,10,55,55,45,20,1,2,13,12,21,255
 10298 DATA "legislates",45,7,7,1,10,10,55,55,45,20,1,2,17,55,255
 10300 DATA
 "legislating",45,7,7,1,10,10,55,55,45,20,1,2,13,12,44,255
 10302 DATA "legislature",45,7,7,1,10,10,55,55,45,20,1,2,50,51,255
 10304 DATA "letter",45,7,7,2,13,51,255
 10306 DATA "litter",45,12,12,2,13,51,255
 10308 DATA "little",45,12,12,2,13,62,255
 10310 DATA "memory",16,7,7,16,52,19,255
 10312 DATA "memories",16,7,7,16,52,19,43,255
 10314 DATA "minute",16,12,11,12,2,13,255
 10316 DATA "month",16,15,11,29,255
 10318 DATA "nip",11,12,12,1,2,9,255
 10320 DATA "nipped",56,12,12,1,2,9,2,13,255
 10322 DATA "nipping",11,12,12,1,2,9,12,44,255
 10324 DATA "nips",11,12,12,1,2,9,55,255
 10326 DATA "no",56,15,53,255
 10328 DATA "physical",40,40,12,43,12,2,42,15,62,255
 10330 DATA "pin",9,12,12,11,255
 10332 DATA "pinned",9,12,12,11,1,21,255
 10334 DATA "pinning",9,12,12,11,12,44,255
 10336 DATA "pins",9,12,12,11,43,255
 10338 DATA "pledge",9,45,7,7,2,10,255
 10340 DATA "pledged",9,45,7,7,2,10,1,21,255
 10342 DATA "pledges",9,45,7,7,2,10,12,43,255
 10344 DATA "pledging",9,45,7,7,2,10,12,44,255
 10346 DATA "plus",9,45,15,15,55,55,255
 10348 DATA "ray",14,7,20,255
 10350 DATA "rays",14,7,20,43,255
 10352 DATA "ready",14,7,7,0,33,19,255
 10354 DATA "red",14,7,7,0,21,255
 10356 DATA "robot",14,53,1,63,24,2,13,255
 10358 DATA "robots",14,53,1,63,24,2,17,55,255
 10360 DATA "score",55,55,2,8,58,255
 10362 DATA "second",55,55,7,2,42,12,11,1,21,255
 10364 DATA "sensitive",55,55,7,7,11,55,55,12,1,2,13,12,35,255
 10366 DATA
 "sensitivity",55,55,7,7,11,55,55,12,1,2,13,12,35,12,1,2,13,19,255
 10368 DATA "sincere",55,55,12,12,11,55,55,60,255
 10370 DATA "sincerely",55,55,12,12,11,55,55,60,45,19,255
 10372 DATA "sincerity",55,55,12,12,11,55,55,7,7,14,12,1,2,13,19,255
 10374 DATA "sister",55,55,12,12,55,2,13,51,255
 10376 DATA "speak",55,55,2,19,2,41,255
 10378 DATA "spell",55,55,2,9,7,7,62,255
 10380 DATA "spelled",55,55,2,9,7,7,62,2,21,255
 10382 DATA "speller",55,55,2,9,7,7,62,52,255
 10384 DATA "spellers",55,55,2,9,7,7,62,52,43,255
 10386 DATA "spelling",55,55,2,9,7,7,62,12,44,255
 10388 DATA "spells",55,55,2,9,7,7,62,43,255
 10390 DATA "start",55,55,2,13,59,2,13,255
 10392 DATA "started",55,55,2,13,59,2,13,12,0,33,255
 10394 DATA "starter",55,55,2,13,59,2,13,51,255
 10396 DATA "starting",55,55,2,13,59,2,13,12,44,255

10398 DATA "starts",55,55,2,13,59,2,13,12,44,255
10400 DATA "stop",55,55,2,17,24,24,2,9,255
10402 DATA "stopped",55,55,2,17,24,24,2,9,2,13,255
10404 DATA "stopper",55,55,2,17,24,24,2,9,51,255
10406 DATA "stopping",55,55,2,17,24,24,2,9,12,44,255
10408 DATA "stops",55,55,2,17,24,24,2,9,55,255
10410 DATA "subject",55,55,15,15,1,28,1,10,7,2,41,2,13,255
10412 DATA "sweat",55,55,46,7,7,2,13,255
10414 DATA "sweated",55,55,46,7,7,2,13,12,2,21,255
10416 DATA "sweater",55,55,46,7,7,2,13,51,255
10418 DATA "sweaters",55,55,46,7,7,2,13,51,43,255
10420 DATA "sweating",55,55,46,7,7,2,13,12,44,255
10422 DATA "sweats",55,55,46,7,7,2,13,55,255
10424 DATA "switch",55,55,48,12,12,2,50,255
10426 DATA "switched",55,55,48,12,12,2,50,2,13,255
10428 DATA "switches",55,55,48,12,12,2,50,12,43,255
10430 DATA "switching",55,55,48,12,12,2,50,12,44,255
10432 DATA "system",55,55,12,12,55,55,2,13,7,16,255
10434 DATA "systems",55,55,12,12,55,55,2,13,7,16,43,255
10436 DATA "talk",13,23,23,1,41,255
10438 DATA "talked",13,23,23,2,41,2,13,255
10440 DATA "talker",13,23,23,2,42,51,255
10442 DATA "talkers",13,23,23,2,42,51,43,255
10444 DATA "talking",13,23,23,2,42,12,44,255
10446 DATA "talks",13,23,23,1,41,55,255
10448 DATA "thread",29,14,7,7,1,21,255
10450 DATA "threaded",29,14,7,7,1,33,12,1,21,255
10452 DATA "thraeder",29,14,7,7,1,33,51,255
10454 DATA "threaders",29,14,7,7,1,33,51,43,255
10456 DATA "threading",29,14,7,7,1,33,12,44,255
10458 DATA "threads",29,14,7,7,1,21,43,255
10460 DATA "then",18,7,7,11,255
10462 DATA "time",13,24,6,16,255
10464 DATA "times",13,24,6,16,43,255
10466 DATA "uncle",15,44,2,8,62,255
10468 DATA "whale",46,20,62,255
10470 DATA "whaler",46,20,45,51,255
10472 DATA "whalers",46,20,45,51,43,255
10474 DATA "whales",46,20,62,43,255
10476 DATA "whaling",46,20,45,29,44,255
10478 DATA "year",25,60,255
10480 DATA "yes",25,7,7,55,55,255
10500 DATA "The chip that makes your Sam talk is a SP0256 allophone
based speech
processor. "
10505 DATA "The allophone speech synthesis technique provides the
user with the
ability to synthesizae an unlimited vocabulary."
10510 DATA " Fifty nine speech sounds (called allophones) and five
pauses are use
d to make up any word.
"
10515 DATA "The allophone set contains two or three versions of
some phonemes (
a single allo - phone). "
10520 DATA "To speak a word all you need to do, is to string a
group of allopho
nes to- gether.
"
10525 DATA "Eg. 'Computer' uses allophones :-
KK1,AX,MM,PP1,YY1,UW1,TT1,E

```

R
                                'Computer' allophone codes
are :-      4
            2,15,16,9,49,22,13,51
                                "
10530 DATA "The codes are then sent out to port 65407, always sent
a '0' code a
t the end. This is a stop signal, the last phoname sent will
be repeated i
f it is not sent.      On the next page is a list of
codes, Allophone
s, sample words and duration.
                                "
10531 DATA "                                Have a look at this basic
program line
s 10000 to 10480. All the speech for the demo is there.
                                "
10535 DATA "Press any key to continue ...","255"
10555 DATA "Code    Allophone    sample    duration    Code
Allophone
sample    duration"
10560 DATA "0      PA1          PAUSE      10MS      17
TT1
PART      100ms"
10561 DATA "1      PA2          PAUSE      13MS      18
DH1
THEY      290ms"
10562 DATA "2      PA3          PAUSE      50MS      19
IY
SEE       250ms"
10563 DATA "3      PA4          PAUSE      100MS     20
EY
BEIGE     280ms"
10564 DATA "4      PA5          PAUSE      200MS     21
DD1
COULD     70ms"
10565 DATA "5      OY          Boy       420MS     22
UW1
TO        100ms"
10566 DATA "6      AY          Sky       260MS     23
AO
AUGHT     100ms"
10567 DATA "7      EH          End       70MS      24
AA
HOT       100ms"
10568 DATA "8      KK2         COMB      120MS     25
YY2
YES       180ms"
10569 DATA "9      PP          POW       210MS     26
AE
HAT       120ms"
10570 DATA "10     JH          DODGE     140MS     27
HH1
HE        130ms"
10571 DATA "11     NN1         THIN      140MS     28
BB1
BUSINESS  80ms"
10572 DATA "12     IH          SIT       70MS      29
TH
THIN      190ms"

```


Sam Coupé VoiceBox

10573	DATA "13	TT2	TO	140MS	30
UH	BOOK	100ms"			
10574	DATA "14	RR1	RURAL	170MS	31
UW2	FOOD	260ms"			
10575	DATA "15	AX	SUCCEED	70MS	32
AW	OUT	370ms"			
10576	DATA "		Press any key for the		
	rest....", "255"				
10577	DATA "Code	Allophone	sample	duration	Code
Allophone	sample	duration"			
10578	DATA "33	DD2	DO	160MS	49
YY1	YES	130ms"			
10580	DATA "34	GG3	WIG	140MS	50
CH	CHURCH	190ms"			
10582	DATA "35	VV	VEST	190MS	51
ER1	FIR	160ms"			
10584	DATA "36	GG1	GOT	80MS	52
ER2	FIR	300ms"			
10586	DATA "37	SH	SHIP	160MS	53
OW	BEAU	240ms"			
10588	DATA "38	ZH	AZURE	190MS	54
DH2	THEY	240ms"			
10590	DATA "39	RR1	BRAIN	120MS	55
SS	VEST	90ms"			
10592	DATA "40	FF	FOOD	150MS	56
NN2	NO	190ms"			
10594	DATA "41	KK2	SKY	190MS	57
HH2	HOE	180ms"			
10596	DATA "42	KK1	CAN'T	160MS	58
OR	STORE	330ms"			
10598	DATA "43	ZZ	ZOO	210MS	59
AR	ALARM	290ms"			
10600	DATA "44	NG	ANCHOR	220MS	60
YR	CLEAR	350ms"			
10602	DATA "45	LL	LAKE	110MS	61
GG2	GUEST	40ms"			
10604	DATA "46	WW	WOOL	180MS	62
EL	SADDLE	190ms"			
10606	DATA "47	XR	REPAIR	360MS	63
BB2	BUSINESS	50ms"			
10608	DATA "48	WH	WHIG	200MS	
	"				

```
10610 DATA "  
any key for me  
nu...","255"
```

End - press

This pdf by Steve Parry-Thomas

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For Sam Users everywhere

www.samcoupe-pro-dos.co.uk