



## Assembly and use instructions for new Babblebot™ speech board.

### Parts list:

- R1 - 1K Res (BrBIRd)
- R2 - 1K Res (BrBIRd)
- R3 - 1K Res BrBIRd)
- R4 - 10K Res (BrBIOr)
- R5 - 10K Res (BrBIOr)
- R6 - 10ohm Res (BrBIBI)
- R7 - 10K Pot (Blue)
- C1-C4 - 10uf Cap (Radial)
- C5 - .1uf Cap (Brown)
- C6 - .0022uf Cap (Blue) → TAN
- C7 - .0022uf Cap (Blue) → TAN
- C8 - .1uf Cap (Brown)
- IC1 - LM386N-1
- IC2 - Speakjet IC

### J1:

- S - Speaking
- R - Reset
- + - 5V+
- F - Ready / Flow
- - GND
- X - Serial In

### J2:

- E1-E7 - Event Inputs  
E6 and E7 can accept RC in.
- D1-D2 - Data Output
- SPK - Speaker Out

### Assembly:

- Step 1. Solder IC1 and IC2 to the PCB.
- Step 2. Locate and solder all resistors except R7.
- Step 3. Locate and solder capacitors C5 - C8.
- Step 4. Locate and solder capacitors C1 - C4. Make sure you get the + and - orientation correct.
- Step 5. Locate and solder the potentiometer R7.
- Step 6. Locate and solder a 2 pin header at the SPK position. (cut from 10 pin header)
- Step 7. Locate and solder the 20 pin J1 header.
- Step 8. \*\*\*\*\*OPTIONAL\*\*\*\*\*

For OOPic II/ II+ users. You may solder the J2 connection directly to the underside of the network connectors on any "S" style board. The proper orientation is to have both boards with components facing UP. Slide the J2 edge of the Babblebot under the OOPic network connectors until the pin tails fall into the holes of J2. Pinch together, roll over and lightly solder each hole.

### Connecting your Babblebot.

OOPic "S" board users can do the above for a fast easy connection. Users of other controllers refer to the manufacturers datasheet and connect to J1.

Only 1 control line is needed to operate the Babblebot. Send TTL serial data to the X location on J1 and your robot has a voice. The Babblebot will accept "bit banged" serial as well.

You may need to use the Ready/Flow line if you are sending large amounts of speech data to the Babblebot, as there is a limited memory capacity of the Speakjet IC. The Ready/Flow line allows your micro controller pass data in as the buffer has room.

The S or Speaking line allows you to let your micro controller know the current status of the Babblebot, ie Is there speech or not currently happening.

V+ MUST BE 5V+

GND MUST BE COMMON GROUND

### Sample Code

#### OOPic

Dim A as New oSerialX

Sub Main()

A.Ioline = 20

A.Baud = cv9600

Oopic.delay = 100

Do

A=20

A=96

A=21

A=114

A=22

A=88

A=23

A=5

A=170

A=132

A=173

A=8

A=146

A=6

A=171

A=135

A=191

A=6

A=186

A=148

A=134

A=8

A=140

A=4

A=8

A=179

A=7

A=148

A=8

A=128

A=141

A=4

A=1

A=7

A=130

A=7

A=130

A=128

A=145

A=128

A=8

A=7

A=131

A=141

A=148

A=7

A=137

A=7

A=164

A=18

A=171

A=136

A=191

A=7

A=129

A=7

A=4

A=194

A=7

A=187

Oopic.delay=400

Loop

End Sub

### BASCOM AVR

```

$crystal = 16000000 'your xtal value
$regfile = "m128def.dat" 'you regfile
config Portd = output
Open "comd.3,9600,8,n,1" For Output As #1
Do
Print #1, Chr(20)
Print #1, Chr(96)

```

// Continue adding Print #1, Chr( ) placing the numbers in the oopic code example inside the ().

Waitms = 400

Loop

Close #1

End

### BASIC STAMP

```

'{$STAMP BS2}
start:
serout 9,$0054,[20, 96, 21, 114, 22,
88, 23, 5, 170, 132, 173, 8, 146, 6,
171, 135, 191, 6, 186, 148, 134, 8,
140, 4, 8, 179, 7, 148, 8, 128, 141,
4, 1, 7, 130, 7, 130, 128, 145, 128,
8, 7, 131, 141, 148, 7, 137, 7, 164,
18, 171, 136, 191, 7, 129, 7, 4, 194
7, 187]
pause 1400
goto start

```

Complete information can be found at:

[WWW.BABBLEBOT.NET](http://WWW.BABBLEBOT.NET)

[WWW.SPEAKJET.COM](http://WWW.SPEAKJET.COM)

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