MorseComputer

MorseComputer helps you learn and practice Morse code

- By understanding keyed Morse code,
- By giving feedback on Morse code you enter,
- By decoding audio Morse code, and
- By playing "Simon" with you.
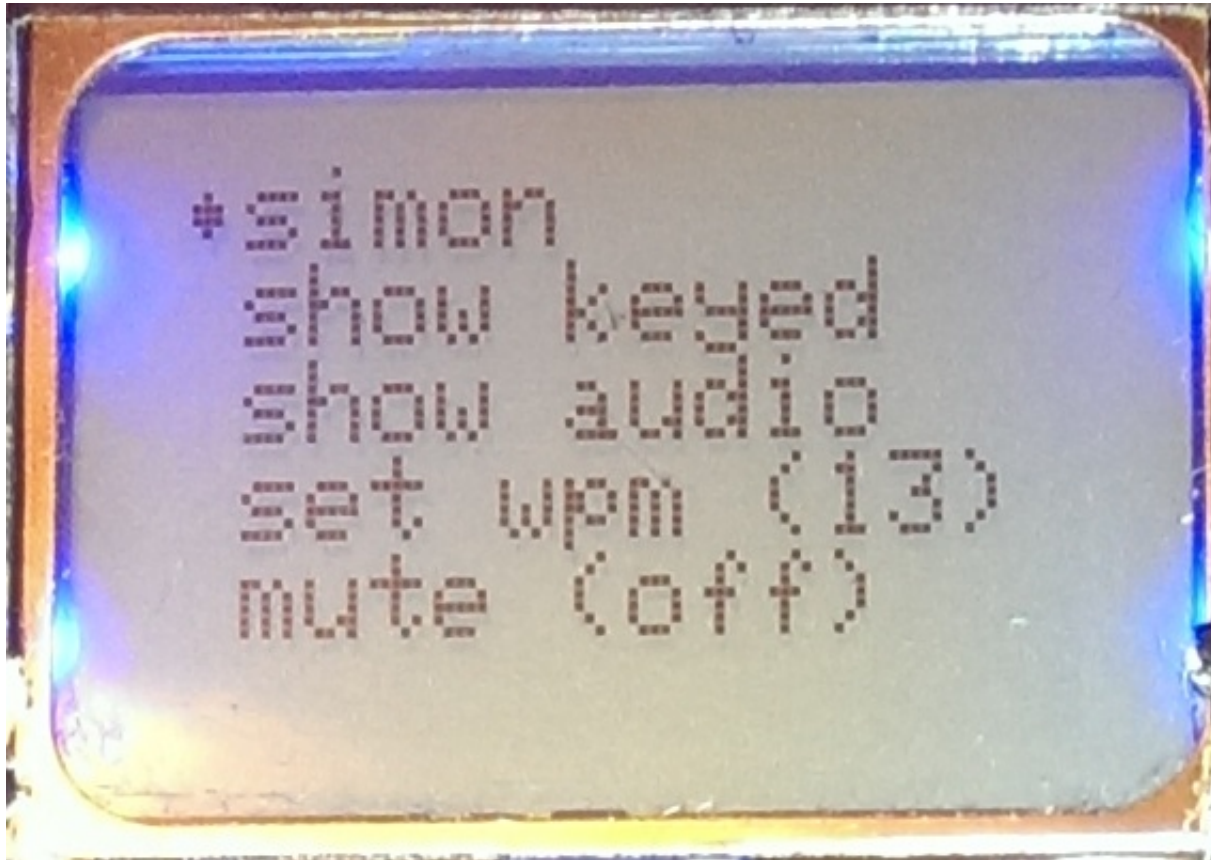
Turning Morse Computer On and Off

The power switch is on the left side of the MorseComputer:

- Pull the switch towards you to turn the MorseComputer on.
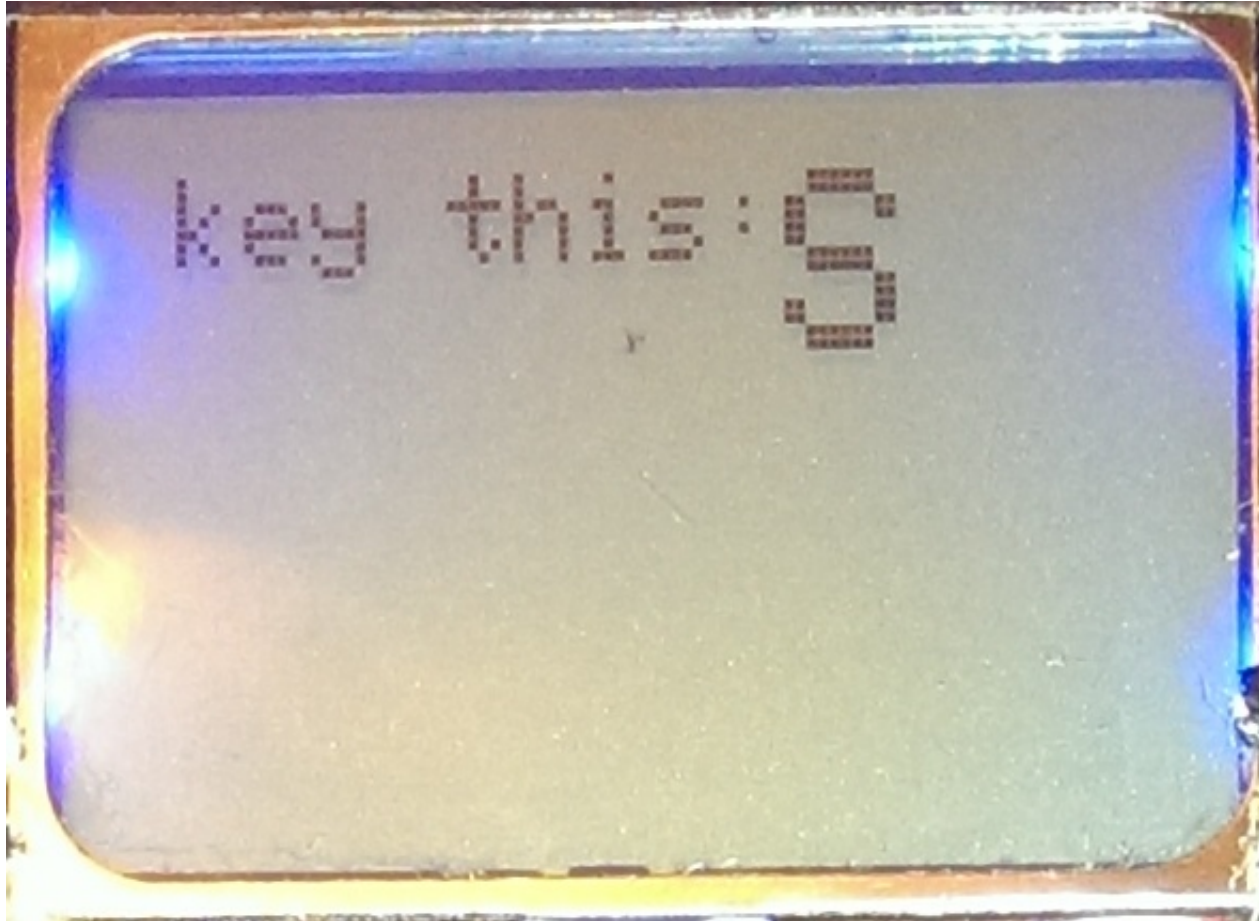- Push the switch away from you to turn it off.

Menu

The menu lists three programs (Simon, Show Keyed, and Show Audio) and two settings options (wpm and mute).

- To scroll through the menu, key a dot.
- To select a program or setting, key a dash when the asterisk is next to that menu item.
- To return to the menu from a program, turn off the MorseComputer and turn it on again.
  - Exception: when in the wpm menu, key very long to return to the menu.

Simon

Simon is a Simon Says-style program; the MorseComputer will play the Morse code tones of the letter or number on the screen, and you repeat it back.

1. Key a dash when the asterisk is next to Simon in the menu.
2. You will be directed to the Simon screen, which reads "key this:" with a number or letter following it.
3. You will hear the Morse code tones for the letter on the screen.
4. Repeat back the Morse code for that letter using the Morse key.
5. If you key the correct answer, you will be congratulated by the MorseComputer. GOOD!
6. If you key the incorrect answer, your answer will appear on the screen and you will hear the correct Morse code tones again. Keep trying until you get it right.

Show Keyed

Show Keyed will display the letters, numbers, and words you key.

1. Key a dash when the asterisk is next to Show Keyed in the menu.
2. You will be directed to the Show Keyed screen, which will be blank until you start keying.
3. Key Morse code of your choosing and your letters, numbers, and words will appear on the screen as you type them.

Show Audio

The Morse Computer is equipped with a microphone to listen to Morse code from other sources (movies, computers, etc.) and decode it for you.

1. Key a dash when the asterisk is next to Show Audio in the menu.
2. You will be directed to the Show Audio screen, which will be blank until you start keying.
3. Hold the MorseComputer near your source, and the decoded message will appear on the screen.

Set wpm

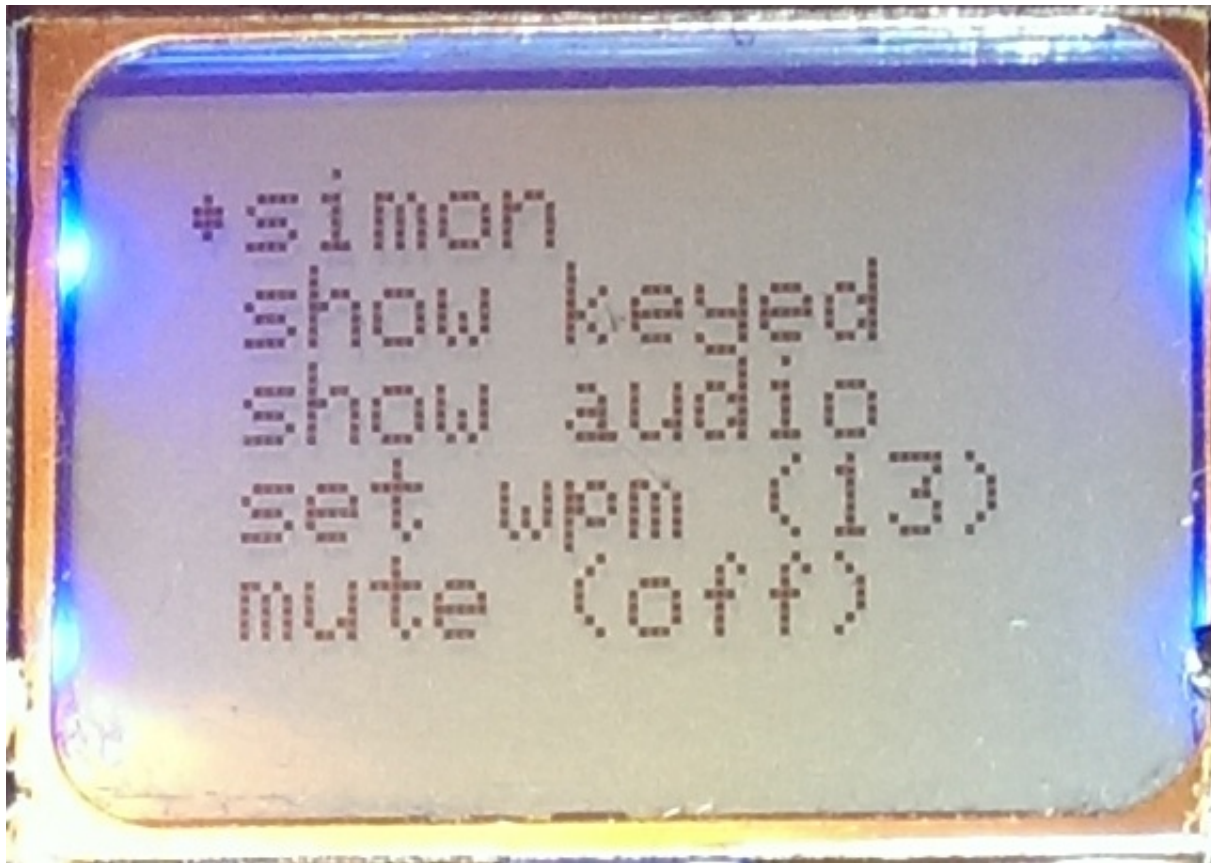You can change the wpm that the programs use under the wpm menu item.

- The current wpm will show in the menu in parentheses next to wpm.
- The default wpm is 13.

1. Key a dash when the asterisk is next to wpm in the menu.
2. You will be directed to the wpm screen, which will show the current speed.
3. Change the speed by keying dots. The new speed will appear on the screen.
4. To return to the menu, key a dash.

Mute

You can turn off the Morse code tones when playing. The default is off.

1. Key a dash when the asterisk is next to mute in the menu. This will turn the mute on, and the Morse tones will not play.
2. Key another dash to turn the mute off and hear the Morse tones again.

Morse Code

If the duration of a dot is taken to be one unit then that of a dash is three units. The space between the components of one character is one unit, between characters is three units, and between words seven units. To indicate that a mistake has been made and for the receiver to delete the last word, send .... (eight dots).

Numbers & Letters

	letter		letter		number
A	.−	N	−.	0	−−−−−
B	−...	O	−−−	1	.−−−−
C	−.−.	P	.−−.	2	..−−−
D	−..	Q	−−.−	3	...−−
E	.	R	.−.	4	....−
F	..−.	S	...	5	.....
G	−−.	T	−	6	−....
H	....	U	..−	7	−−...
I	..	V	...−	8	−−−..
J	.−−−	W	.−−	9	−−−−.
K	−.−	X	−..−		
L	.−..	Y	−.−−		
M	−−	Z	−−..		

Punctuation

	meaning	morse
.	full-stop(period)	.−.−.−
,	comma	−−..−−
:	colon	−−−...
?	question mark (query)	..−−..
'	apostrophe	.−−−−.
-	hyphen	−....−
/	slash	−..−.
(	brackets/parentheses	−.−−.−
"	quotation marks	.−..−.
@	at sign	.−−.−.
=	equals sign	−...−

Abbreviations

The prosigns are combinations of two letters sent together with no space in between. The other abbreviations and Q codes are sent with the normal spacing.

	meaning		**prosign**		**qcode**
K	Over	AA	New line	QSL	I acknowledge receipt
R	Roger	AR	End of message	QSL?	Do you acknowledge?
CUL	See you later	AS	Wait	QRX	Wait
BCNU	Be seeing you	BK	Break	QRX?	Should I wait?
UR	You're	BT	New paragraph	QRV	I am ready to copy
RST	Signal report	CL	Going off the air ("clear")	QRV?	Are you ready to copy?
73	Best regards	CT	Start copying	QRL	The frequency is in use
88	Love and kisses	DO	Change to wabun code	QRL?	Is the frequency in use?
		KN	Invite a specific station to transmit	QTH	My location is...
		SK	End of transmission (also VA)	QTH?	What is your location?
		SN	Understood (also VE)		
		SOS	Distress message		

Hardware

Colors for the wires are included in the tables below, so you can fix it easily if something comes unhooked.

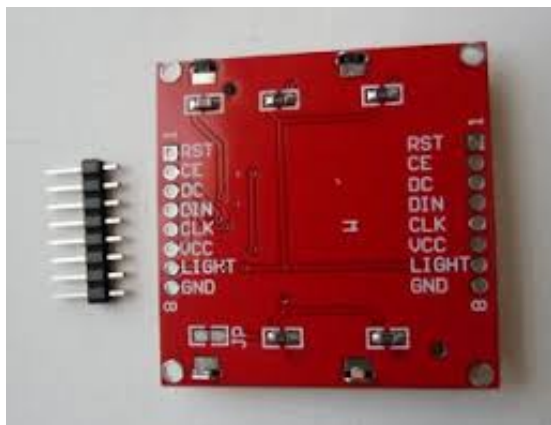Connect battery `+` (red) to `VIN` on mainboard, and `−` (black) to `GND`.

1 wire (white) goes to arduino `D2`, the other (black) goes to `GND`.

1 wire goes to `D3` (white/green), the other goes to `GND`.

AUD (yellow) goes to A0 , VCC (red) to 5V , GND (black) to GND

arduino pin	color	lcd
D9	white	LIGHT
D8	yellow	CLK
D7	green	DIN
D6	grey	DC
D5	purple	CE
D4	blue	RST
3.3	red	VCC
GND	black	GND