

How to build the module*

Extract the module's printed circuit board from the master;

To prepare the vactrols; place the heat shrink tube over the LDR and the LED. Heat the tube to keep them in place; Place the vactrols on their assigned place on the back of the board. Make sure that the long leg of the LED is in the square hole before soldering them.

Place the female headers on the board and solder them on the back of the PCB. Solder the male headers to the back of the Arduino Nano. Insert them into the female headers;

Place and solder the resistors in their assigned place on the PCB;

Place and solder the ceramic capacitor in its assigned place on the PCB;

Place and solder mono jack outputs, push buttons, rotary potentiometers and the RCA plug in their assigned place on the PCB;

Place and solder the JP.

How to connect the module*

Power the module by connecting the Arduino with a power source;

Connect your screen with the RCA plug via a RCA cable;

To receive serial messages connect the serial input port with the serial output port of the other module via a mini jack cable;

To receive sound messages connect the analog input port with the sound output port of the other module via a mini jack cable.

How to interact with the module*

Rotary Potentiometers

Voice Quality Symbols [AnalogRead A1]

Use the knob to play with VoQS.

Push Buttons

Use the buttons to play with Pidgin's Visible Speech System and other translations.

Components*

*1x RCA plug (Lumberg Black Right Angle PCB Mount RCA Socket with Tin Plated Contacts, 2A);

*2x Rotary potentiometers;

*3x Push buttons OFF/(ON)

12.5x12.5 mm;

*1x Arduino Nano (equipped with male and female headers);

*2x5 Male Header (JP);

*3x LED;

*3x LDR;

*4x Mono jack outputs;

*3x 1k Ω Resistors;

*4x 10k Ω Resistors;

*1x 150 Ω Resistor;

*1x 470 Ω Resistor;

*2x 0 Ω Resistors;

*1x ceramic capacitor;

*4x Heat shrink tube;

*1x Mini USB cable;

*Soldering equipment;

N.B. the module requires a screen equipped with a RCA connector.

Voice Quality Symbols

(VoQS) are a set of phonetic symbols used to transcribe the "voice quality" of a speech.

Machine-Readable Speech [AnalogRead A2]

Use the knob to play with messages from other modules.

Pidgin's Visible Speech is a visual representation of speech conceived by the American author and inventor Charles F. Pidgin in 1917. He received a patent to allow this system to be added to (silent) motion pictures by means of "inflatable balloons being shown for carrying the words and for enabling them to be blown from the mouth of the characters."

Lingua Franca [DigitalRead D4]

IPA International Phonetic Chart [DigitalRead D3]

International Phonetic Alphabet is an alphabetic system of phonetic notation based primarily on the Latin alphabet. It is used in dictionaries to indicate the pronunciation of words. The IPA has often been used as a basis for creating new writing systems for previously unwritten languages.

Binary [DigitalRead D2]