

### Andrea PureAudio Array Microphone Development Kit for Raspberry Pi3

Featuring Andrea's patented Array microphone beam forming, noise reduction and full duplex acoustic echo cancelation. Including voice trigger phrase and a limited discrete vocabulary for home automation and robotics applications.



#### USB-PA External Soundcard

- Stereo microphone input and stereo speaker output
- Compatible with most computing devices that support a USB audio class driver

| Parameter                    | Value                                              |
|------------------------------|----------------------------------------------------|
| <b>USB Compliance</b>        |                                                    |
| USB HID Device Class Spec.   | 1.1 Compliant                                      |
| USB Audio Device Class Spec. | 1.0 Compliant                                      |
| USB Spec.                    | 2.0 Full-Speed Compatible and USB-IF Certification |
| <b>Operation</b>             |                                                    |
| Power                        | USB                                                |
| Microphone Input             | 2 Channel Stereo                                   |
| Audio Output                 | 2 Channel Stereo                                   |
| Sampling Rate                | 8K, 11025, 16K, 22050<br>32K, 44.1K and 48KHz      |
| <b>Power Supply</b>          |                                                    |
| Supply Voltage               | 4.5 - 5.5 VDC                                      |
| Total Power Consumption      | 120 mA                                             |
| <b>Microphone Input</b>      |                                                    |
| A/D Conversion Resolution    | 16 bit                                             |
| THD + N                      | -84 dB                                             |
| Supply Bias Resistor         | 2.2K Ohm @ 3.3VDC                                  |
| Frequency Response           | 20-20,000 Hz                                       |
| Input Range                  | 0 - 1.25 Vrms                                      |
| Dynamic Range                | 95 dB                                              |
| Record Gain Range            | -6 to 33 dB                                        |
| <b>Stereo Speaker Output</b> |                                                    |
| D/A Conversion Resolution    | 16 bit                                             |
| THD + N                      | -91 dB                                             |
| Frequency Response           | 20-20,000 Hz                                       |
| Output Load                  | 32 Ohm                                             |
| Output Voltage               | 1.27 Vrms                                          |

#### Array-2S SuperBeam Stereo Array Microphone

- Uni-directional stereo microphone
- Compatible with USB-PA

| Parameter                                          | Value                           |
|----------------------------------------------------|---------------------------------|
| <b>Connections</b>                                 |                                 |
| Microphone Plug 3.5mm                              | Pink (PMS 701C)                 |
| <b>Electrical Characteristics</b>                  |                                 |
| Mic Supply Voltage                                 | 1.4-5.0 VDC                     |
| Supply Bias Resistor                               | 2.2K-3.9K Ohm                   |
| Operating Current (Each Channel)                   | 0.5 mA                          |
| Output Impedance at 1 KHz                          | 200 Ohm                         |
| Max Input Sound Level at 1 KHz, 3%THD              | 115 dB                          |
| Output Signal Level at THD <3% @ 1 KHz             | 24-120 mVrms                    |
| Sensitivity at 1 kHz<br>(0 dB = 1 V/Pa Vdc = 1.6V) | -40 to -37 dBV                  |
| Frequency Response at 3dB Variation                | 20-15,000 Hz                    |
| Noise                                              | 20 uVrms                        |
| Operating Temperature                              | 0-70° C                         |
| <b>Acoustic Characteristics</b>                    |                                 |
| Recommended Operating Distance                     | 12-48 Inches<br>Uni Microphones |