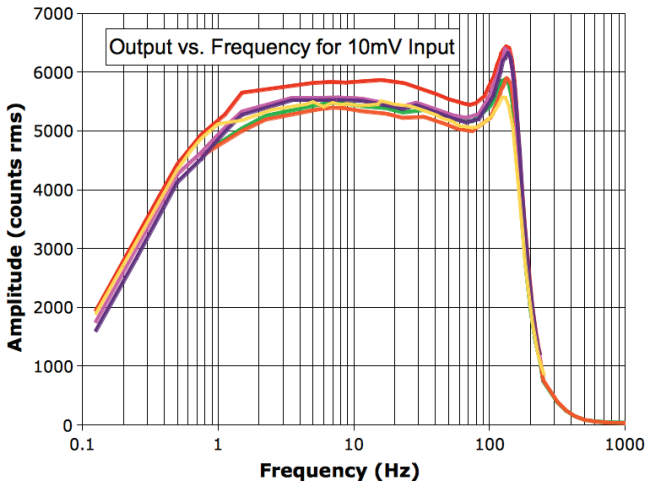
Subcutaneous Transmitters

Version	X	Y	Battery Capacity (mA-hr)	Volume (ml)	Width (mm)	Height (mm)	Operating Life (hours)	Shelf Life (months)
A3028A	20-mV, 0.3-160 Hz, 512 SPS	20-mV, 0.3-160 Hz, 512 SPS	48	1.4	14	7	360	27
A3028B	20-mV, 0.3-160 Hz, 512 SPS	Disabled	48	1.4	14	7	550	27
A3028D	20-mV, 0.3-160 Hz, 512 SPS	20-mV, 0.3-160 Hz, 512 SPS	255	2.8	24	8	1700	140
A3028E	20-mV, 0.3-160 Hz, 512 SPS	Disabled	255	2.8	24	8	3000	140

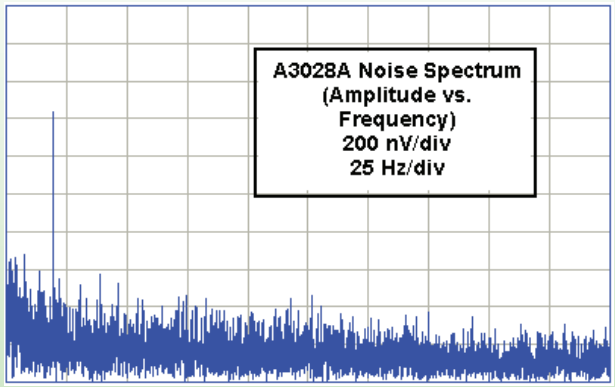
A3028A Specifications

Property	Value
Volume	1.4 ml
Mass	2.7 g
Outer Dimensions	14 mm × 14 mm × 8 mm
Operating Life	360 hours
Shelf Life	27 months
Number of Inputs	2
Type of Input	Differential
Input Impedance	10 MΩ || 2 pF
Sample Rate (Each Input)	512 SPS
Sample Resolution	16-bit
Input Dynamic Range	20 mV
Input Bandwidth	0.3 Hz – 160 Hz
Input Noise	8 µV rms
Input Mains Hum	<1 µV

A3028A Frequency Response



A3028A Noise Spectrum



Reception

- **Guaranteed, reliable reception from active animals**
- **Robust reception from cohabiting animals**
- **Robust reception throughout IVC racks**
- **Recording is continuous and uninterrupted**
- **No battery re-charging required**
- **Radio-frequency isolation chamber usually required**
- **Isolation chambers can be purchased or self-made**

Prices

Part	Description	Price* (US$)
A2071E	LWDAQ Driver with Ethernet Interface	$2,000
A3027C	Octal Data Receiver	$4,000
A3028A/B/D/E	Subcutaneous Transmitter	$500**
FE2B	Faraday Enclosure, Top-Loading	$1,200
FE2C/D	Faraday Enclosure, Front-Loading	$1,200

***Subject to Change** ****in quantity 10**

Software

Open Source Instrument's data acquisition software (Long Wire Data Acquisition System or LWDAQ) was developed with Department of Energy funding at Brandeis University's Physics Department to run the alignment system for the ATLAS detector's endcap muon spectrometer at the Large Hadronic Collider. The software is free, open source, and distributed under the GNU Public License.

Communication between the data acquisition computer and hardware is by TCPIP. Acquisition can take place over a local area network, a private network, or the Internet. LWDAQ runs equally well on Linux, Windows, and MacOS.

Open Source Instruments has added to the LWDAQ several utilities for wireless telemetry recording, including the:

- Neuroarchiver – for writing raw data to disk, and reading and displaying raw data from disk
- Event Classifier – for developing a process for detecting user-defined patterns in the recordings
- Batch Classifier – for applying the detection process to the tens of thousands of hours of recordings that are produced by continuous, long-term recordings