

CerePlex™ E

The next-generation noise-free link to the Utah Array™ smaller and more powerful than ever.

The CerePlex™ E provides a noise-free link between the Cerebus™ or CerePlex™ Direct data acquisition systems. It supports high-fidelity transmissions and recordings of extracellular spikes and local field potentials from up to 128 microelectrodes.

The CerePlex™ E digitizes analog neural signals directly at recording site, which dramatically reduces noise introduced to the signal during transmission. An on-board multiplexor (multiplexer) significantly reduces wire count thereby providing for lighter, smaller, and more streamlined connection to our data acquisition systems.

The integrated impedance measurement functionality allows for *in-vivo* interrogation of individual electrodes. For experiment designs that include electrical neural stimulation, CerePlex™ E's fast-settle circuitry ensures high-quality neural recordings immediately after stimulation.

And the good news does not stop there: CerePlex™ E's built-in amplifier packs ultra-wideband filters allowing researchers greater stability to record even the slowest neural oscillations down to 0.05 Hz. All compacted strategically in a thumb-size device compatible with CerePort™ array assembly Utah Array™ implanted in non-human primates, felines, and other large or small animal models.



Ultimate Digital Noise-Free Headstage

Key Features

- » On-board digitizing amplifier
- » 7-wire output for 128 electrodes
- » Miniature, light-weight
- » Eliminates artifacts from cable motion and environmental noise
- » Ultra-wideband recording
- » Real-time, stimulus-artifact suppression

Applications

- » Non-human primates
- » Felines

Compatibility

The CerePlex™ E is fully compatible with any of the following Blackrock Microsystems' data acquisition systems:

- » Digital Hub (animal)
- » Cerebus™ Data Acquisition System (animal)

CerePlex™ E Set-Up



Specifications

Number of electrodes	128
Resolution	16-bit, 250 nV
Sampling Frequency	30 kHz
Mode of Operation	Continuous
Input Frequency Range	0.3 Hz - 7.5 kHz / 0.05 Hz - 10 kHz (user selectable)
Input Impedance	1300 MΩ @ 10 Hz, 13MΩ @ 1 kHz
Maximum Input Range	± 8 mV with respect to reference
Operating Environment	10°C to 40°C, 5 to 95% R.H. (non-condensing)
Storage Environment	-20°C to 50°C, 5 to 100% R.H. (non-condensing)