

General Description

The KJE-1001 multiplexed biosignal amplifier and acquisition system is a high quality, low noise level data acquisition device for 256 channels of various biological signals from freely moving animals, such as:

- electroencephalograms,
- local field potentials, and
- single neuronal activity

Due to the multiplexing capability, the information of 256 individual channels is transmitted by using only 12 wires.

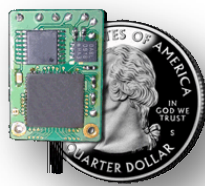
The very small size of the headstage amplifiers and multiplexers allow its use on small rodents such as mice, even during freely moving behavioral tasks.



KJE-1001 Mainbox



HS2 64 Channel headstage with Omnetics connectors



64 Channel headstage with onboard silicon probe



KJD-1000 Demultiplexer units

Technical Specifications

Base system:

- Flexible headstage connection up to
- 256 channels
 - 32 external input channels (± 10 V)
 - 4 digital input

Headstages:

- 0.3 Hz high pass filter
- 10 kHz low pass filter
- Gain: 400
- Input referred noise: ~ 1.5 μ V RMS
- Sampling rate: 20 kS/Ch @ 14 bit
- Size: 14x13x3 mm, 1.9 gr (32 ch)
- 19x13x3 mm, 2.3 gr (64 ch)
- 38x34x3 mm, 6 gr (256 ch)
- +5V LED power supply

Demultiplexer:

- Time delay of demultiplexing: 50 μ s
- Variable gain
- Outputs for raw signal and high pass filtered signal for MUA

System components

Base components

KJE-1001	Amplipex KJE-1001 Basebox
KJE-C1A	DAQ Card
KJD-1BB	Demultiplexer Basebox
KJD-1000	Demultiplexer Unit

Headstages

HS3o-v1.3	32 Ch Multiplexer Headstage with Omnetics connector <i>mates with Omnetics NPD-36-DD-GS (36 connectors + 4 guide posts)</i>
HS3h-v1.3	32 Ch Multiplexer Headstage with Hirosho connector <i>mates with Hirosho DF30-FC-20DS-0.4V</i>
HS2o-v1.3	64 Ch Multiplexer Headstage with Omnetics connector <i>mates with Omnetics NPD-36-DD-GS (36 connectors + 4 guide posts)</i>
HS2h-v1.3	64 Ch Multiplexer Headstage with Hirosho connector <i>mates with Hirosho DF30-FC-20DS-0.4V</i>
HS2e-v1.3	64 Ch Multiplexer Headstage with onboard silicon probe (8x8 sites)

Cables

KJE-1cbl	Shielded DAQ Interconnect Data Cable
KJD-1cbl	Demultiplexer Interconnect Cable
HS3-cbl	32 Channel Headstage cable – Length: 12 m
HS2-cbl	64 Channel Headstage cable - Length: 12 m

Software

S-KJE-1	Amplipex Data Acquisition Software for 256 Channel KJE-1001 Basebox
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