



### Features

- ISCEV Standard ERG / EOG / VEP
- Double flash, On/Off, S-Cone, photopic negative response, scotopic threshold response ERGs
- SunBurst™ Color LED Ganzfeld
  - Lightest, brightest, most capable
- UBA-4204 Digital Biomedical Amplifier
  - Smallest, lightest, quietest
- Compatible with legacy LKC data. Migrate data from your previous LKC system.
- CE and MET (UL equivalent) certified
- GLP (21CFR11) Compliance Pack option
- Color or white-only mini-ganzfeld option
- Multifocal ERG - Multifocal VEP option
- Sweep VEP (objective visual acuity) option
- Dark adaptometry option

### The UTAS

This revolutionary product will provide you with everything you need for any type of electroretinogram, electro-oculogram, or visual evoked potential. The ultra-bright ganzfeld – capable of over 15,000,000 different colors – will allow you to perform ERGs you never imagined possible including on-off, double flash, photopic negative response, scotopic threshold response, and s-cone ERGs. Amplification with our digital biomedical amplifiers allows faithful reproduction of every nuance of your recordings.

### Design Features

- The world's brightest and most capable ganzfeld
- Ultra low-noise digital amplifiers
- Built-in ERG normative data, or use your own.

### Key Specifications

- Total flash range from -75 dB to +30 dB in 1 dB steps
- Flash stimuli from -50 dB to +18 dB in any color
- Background luminance 0.005 to 5000 cd/m<sup>2</sup> in any color

# UTAS Visual Electrodiagnostic Testing System Specifications

## SunBurst™ Ganzfeld

### Easy to Use

- Small and lightweight – 13.5" W x 10.5" D x 8" H (34.3 cm x 26.7 cm x 20.3 cm), 5.0 lbs (3.7 kg)
- Ergonomic mounting arm provides easy and comfortable adjustment to any patient. Quick mount feature and built-in grips for easy positioning over patient.
- Infrared fixation camera allows simple visualization of fixation and electrode placement.
- Cleanable interior
- Dim red illumination to assist during electrode placement.

### Clinical Capabilities

- SunBurst can produce all ISCEV standard stimuli, PLUS Double Flash ERG; On/Off Response ERG; S-Cone ERG; Chromatic backgrounds and stimuli (e.g. photopic negative response); Scotopic Threshold Response ERG; Infrared flash for retinal implant testing, and MORE!
- Latencies and amplitudes of ISCEV standard ERGs match results from legacy LKC products. No need for new normative data.
- 9 red EOG fixation LEDs in  $\pm 15^\circ$  horizontally. Brightness adjustable over 20 dB range in 256 steps.

### And Beyond

- Uses Red (627 nm), Green (530 nm), Blue (470 nm), Amber (590 nm) and white LEDs and Xenon flash.
  - \* Dynamic flash luminance range of 105 dB (+30 dB to -75 dB) in 1 dB steps.
  - \* Xenon flash luminance of 2.5 to 2500 cd-s/m<sup>2</sup> (0 dB to +30 dB).
  - \* LED flash luminance of  $2.5 \cdot 10^{-5}$  to 160 cd-s/m<sup>2</sup> (-50 dB to +18 dB) in any arbitrary color. LED flash luminance of -75 dB to -50 dB in white.
- Flash duration <5 ms.
- Background light from 0.005 to 5000 cd/m<sup>2</sup> in 0.01 dB increments in any color; In white as low as 10<sup>-6</sup> cd/m<sup>2</sup>.
- Easy verification of calibration.
- Flicker stimuli to +18 dB; 1 Hz repetition rate for intensities +19 dB to +30 dB.
- Long duration flash (On/Off response) stimuli programmable to 6.5 seconds in 5 ms increments, adjustable intensity and chromaticity.
- Arbitrary waveform capability using RGB stimuli to 2000 points (10 seconds) per cycle.
- Fully isolated Trigger In and Trigger Out signals for interfacing to other equipment.

## UBA-4204 Amplifier

**Communication:** Fully Isolated Fiber Optic TOSLink connection over 2 meter cable.

**Input Type:** 4 channel differential with > 10 M $\Omega$  impedance.

**Connector Type:** 1.5 mm Male DIN Safety electrode connections.

**Noise:** < 0.7  $\mu$ V p-p @ 100 Hz Sampling Rate, 10 K $\Omega$  Input.  
< 1.8  $\mu$ V p-p @ 1000 Hz Sampling Rate, 10 K $\Omega$  Input.

**CMRR:** > 110 dB at 50-60 Hz.

**Frequency Range:** DC to > 1.0 MHz without aliasing. Cutoff is sample rate dependent.

**Input Gain:** 1, 2, 4, 8, 16, 32, 64 (user selectable).

**Data Resolution:** 3.7 nV / bit (Gain = 64) to 250 nV / bit (Gain = 1).

**Input Range:**  $\pm 2$  V (Gain = 1).

**Stability:** < 250 nV /  $^\circ$ C drift.

**Accuracy:** < 0.2% absolute, Nonlinearity < 0.0010%.

**Sampling Rate:** 5 Hz to 3750 Hz.

**Filters:** High cut and low cut filters implemented in application software.

**Safety:** No wires (fiber optics only) means no leakage currents!

**Power Source:** Rechargeable Li-Ion Battery provides up to 12 hours continuous use per charge.

**Recharge Time:** 4 hours to 80% capacity, 8 hours to 100% - Charger included.

**Size:** 5 3/4" x 3 1/4" x 1" (14.6 cm x 8.3 cm x 2.5 cm).

**Weight:** 8 oz. (225 g), including battery.

All specifications subject to change.

LKC Technologies, Inc., established in 1975, is an ISO 13485:2003 certified and FDA registered medical device manufacturer with quality products in over forty countries.

### US Office

LKC Technologies, Inc.  
2 Professional Drive, Suite 222  
Gaithersburg, MD 20879 USA  
t: 800.638.7055 (USA)  
301.840.1992 (outside USA)  
f: 301.330.2237  
e: sales@lkc.com

