DPOAE PROBE SYSTEM

- **LO-NOISE SYSTEM** for easy-to-interpret otoacoustic emissions measurements
- **BUILT-IN SOUND SOURCES** eliminate the need for separate external sources
- **SWITCHABLE AMPLIFIER** for 0, 20 or 40 dB additional low-noise gain
- **EASY TO REPLACE EARTIPS** in eight sizes
- **BATTERY OPERATION** eliminates ground loop problems

**SPECIFICATIONS**

**Microphone**
- **Sensitivity:** 50mV/Pascal (-46 dB re 1V/uBar)
  - 0 dB SPL = 0 dBuV
- **Limits:** ±1 dB at 1kHz
  - ±4 dB between 200 and 8000 Hz
- **Output Impedance:** 100 Ohms
- **Undistorted Output:** 120 dB SPL (1 Volt) minimum
  - 5mA minimum
- **Noise Level:** 1-kHz spot noise typically below -17 dB SPL
  - (1-Hz bandwidth)

**Sound Source (2 Channels)**
- **1kHz Sensitivity:** 72 dB SPL for 1.0 Volt RMS
- **Maximum Safe Continuous Voltage:** 10 Volts RMS
- **Impedance:** 50 kOhms nominal
- **Acoustic Polarity:** +Electrical = +Acoustic
- **Sound Tubes:** 0.7 mm
- **Mic Port:** 2 mm (O.D. 3.5 mm)

**SYSTEM**

**System Includes**
- ER-10C Probe (Probe Cord: 6' shielded)
- ER-10C Probe Driver-Preamp
- Frequency Response Data
- Hook-and-Loop Headband and Shirt Clip
- Storage Case
- Eartip Samples
- Two 9V Batteries

*Note: Cables and interface hardware are not included.*
The ER-10C DPOAE system is designed to facilitate measurement of distortion product otoacoustic emission.

The ER-10C Probe is supplied with a driver-preamp that serves as the driver for the sound sources and as the preamp for the microphone. It has a built-in +40 dB switchable amplifier to supply additional low-noise gain. The ER-10C Probe Driver-Preamp is powered by two 9V alkaline batteries which provide approximately 35 hours of operation. Power-on and battery condition are indicated on the front panel LED.

The probe has a diode network to protect the probe from damage due to electrostatic discharge.

**OPERATION**

**Setup**
- Install two 9V batteries in the sockets on the back of the Driver-Preamp.
- Attach input/output cables with BNC connectors to the Driver-Preamp.
- Connect the 7-pin plug on the ER-10C Probe cable to the jack labeled PROBE on the front of the Driver-Preamp.

**USE**
- Turn on the Driver-Preamp. The red LED will illuminate. When batteries are weak the LED will dim or not illuminate, indicating the need to replace batteries.
  - Alkaline 9V batteries last about 35 hours.
  - The LED will begin to dim after about 30 hours.
- Attach Eartip
  - Choose an eartip that will provide a good seal for adequate noise isolation.
  - The red stripe on the eartip tubing should be lined up with the red dot on the probe. Use care to orient probe tubes with lumens in tubing.
  - Push the eartip firmly on the tubes until the eartip tube is in the recessed area on the probe.
  - When using a foam eartip, slowly roll it into the smallest diameter possible before attaching.
- Hold the probe in place on the cable using the hook-and-loop headband or shirt clip.
- When the probe is not in use, attach it to the hook-and-loop patch on the top of the Driver-Preamp.
- Avoid striking the probe against hard surfaces.

**WARNINGS**

The ER-10C Probe will provide accurate measurements when used according to these instructions. Use the probe only as directed.

- Do not use the probe when medically contraindicated, e.g., draining ear, ear infection, ear canal laceration or other otologic condition where use of an eartip could potentially exacerbate a medical condition.
- Make sure the signal level of the sound source is safe. Use caution when selecting presentation level and duration.
- Use of accessories or replacement parts other than those supplied by Etymotic Research or its authorized distributors may result in inaccurate results.
- Modification or alteration of any parts may invalidate test results.
- Do not reuse eartips. All eartips, regardless of material or construction are for single-person use only. Replace eartips for each test session.

**CARE**

- The ER-10C Probe case, cable and the Driver-Preamp may be cleaned with a mild solution and a soft cloth.
- Avoid touching the tubes extending from the front of the probe.
- Do not allow any solutions or debris to enter the tubes on the probe.
- Do not open the probe case or Driver-Preamp.
- All service must be performed by Etymotic Research.

**TROUBLESHOOTING**

- BATT Test light on the Driver-Preamp does not illuminate:
  - Check the connections on the 9V batteries.
  - Try replacing the batteries.
- No response from the probe:
  - Check that the input/output cables are attached properly and in the proper order.
  - Be sure the eartip is attached to the probe.
  - Check the connection of the probe to the Driver-Preamp.
- For technical assistance, contact customer-service@etymotic.com.
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ACCESSORIES

- ER10C-14A Foam eartips (regular, 13mm)
- ER10C-14B Foam eartips (baby, 10mm)
- ER10C-14C Foam eartips (jumbo, 18mm)
- ER10C-02 Eartip tubes
- ER10C-03 Eartips (3.5mm)
- ER10C-04 Eartips (4mm)
- ER10C-05 Eartips (6mm)
- ER10C-06 Eartips (5mm)

WARRANTY

Etymotic Research, Inc. warrants this product to be free of defects in material and workmanship for a period of one year from the date of sale to the original purchaser. Etymotic Research’s obligation under this warranty is fulfilled, at ERI’s option, by replacing the product in kind without charge to the original purchaser, repairing the part, or crediting the original purchaser with the purchase price of the returned defective part. For a part to be covered by the warranty it must be returned to Etymotic Research, postage prepaid, within the warranty period, and the part must not show evidence of misuse, neglect, incorrect wiring by others, or improper installation.