# CRY6151B

# Electroacoustic Analyzer

## Introduction

CRY6151B electroacoustic analyzer is the newest electro-acoustic analyzer developed by CRY Sound with powerful functions and strong stability. It can measure the performance of headset(USB, Bluetooth, ANC), microphone(electret, dynamic and MEMS), receiver, micro speaker, loudspeaker, communication helmet, etc. The measurement parameters include frequency response, sensitivity, impedance, distortion, resonant frequency(F0), balance, position of headphones, phase polarity, current and voltage of microphone, signal to noise ratio(SNR), directivity, T&S parameters, loudness rating and so on.

## Features

- Hardware：
  1. Contains soundcard, power amplifier, signal conditioning module and USB communication module. All of above superior modules contribute to various types of electro-acoustic device testing combined with software.
  2. Compact design, simple USB data communication, which meet customer requirements for various types of test environment;
- Software：
  1. Compatible with Windows XP 32bit and Windows 7 32bit
  2. Support a variety of stimulus type, including RMS, Rapid stepped sweep, Precise stepped sine sweep, Multitone, White noise and Pink noise.
  3. Single sweep measure frequency response, sensitivity(SPL), distortion(THD), impedance, F0, phase, balance, polarity, etc.
  4. Can test the Bluetooth audio equipment with automatic matching (no manual click);
  5. Powerful sequence editing and preservation function, equipped with signal generator and multimeter. To better adapt to customers in the laboratory and production line applications.

# Technical Specification

| SOUNDCARD（Type CRY6138） | |
|---|---|
| Channel | 4 input / 4 output (can extended to 8 input / 4 output) |
| Sample Rate | 44.1k – 192k, 24 bits |
| Input Dynamic Range | 115dB Typical |
| Output Dynamic Range | 115dB Typical |
| Noise | -115dBV(1.8uV), bandwidth 20-22k, A weighted |
| Coupling | AC |
| Frequency Response | 20-20kHz (± 0.1dB) |
| THD@1kHz | 0.001% |
| Crosstalk@1kHz | -118dB |
| **SIGNAL OUTPUT** | |
| Power | 20W(Artificial Mouth ports)    1W(Headphone port) |
| Frequency Response | 20-20kHz (±0.1dB), support 1-96kHz in special circumstance |
| Stimulus | RMS, Rapid stepped sweep, Precise stepped sine sweep, Multitone, White noise, Pink noise. |
| Octave Mode | 1/3, 1/6, 1/12, 1/24 |
| Output Impedance | 1 Ohm, 33 Ohm, 151 Ohm, 601 Ohm, 751 Ohm |
| Distortion | ≤0.01% |
| Maximum Output Voltage | 5V |
| **SIGNAL INPUT** | |
| Amplitude Range | Electrical signal (-95dB～10dB),    Acoustic signal (35dB～140dB) |
| Maximum Input Voltage | 3V |
| Noise | -105dBV(5.6uV) |
| ICP Microphone Power Supply | 4 channel 4mA (24VDC) |
| Traditional Microphone Power Supply | 2 channel traditional Power (dB9) |
| Electret Microphone Power | 0 - 6.25V (Controlled by software) |

| | |
|---|---|
| **Electret Microphone Resistance** | 0 - 10k Ohm(Controlled by software) |
| **Measurement** | |
| **Electret Microphone Current** | 0 - 1mA, ±1% |
| **Speaker Impedance** | 0 – 2k Ohm, ±1%, Support differential and single ended |
| **Digital I/O** | |
| **Output** | 14 bits, Maximum current 10mA |
| **Input** | 1bit (Footswitch) |
| **Level** | High +3.3V,    Low GND |
| **Other** | |
| **Optional Accessories** | CRY series Artificial Mouth, Artificial Ear<br>CRY series Microphone, Preamplifier<br>CRY573 Audio Invertor<br>CRY574 Bluetooth Dongle |
| **Power** | 50Hz, 80V～240V |
| **Environment** | 0～+40°C, Relative humidity ≤ 80% |
| **Size** | 330mm X 280mm X 75mm |

# Application

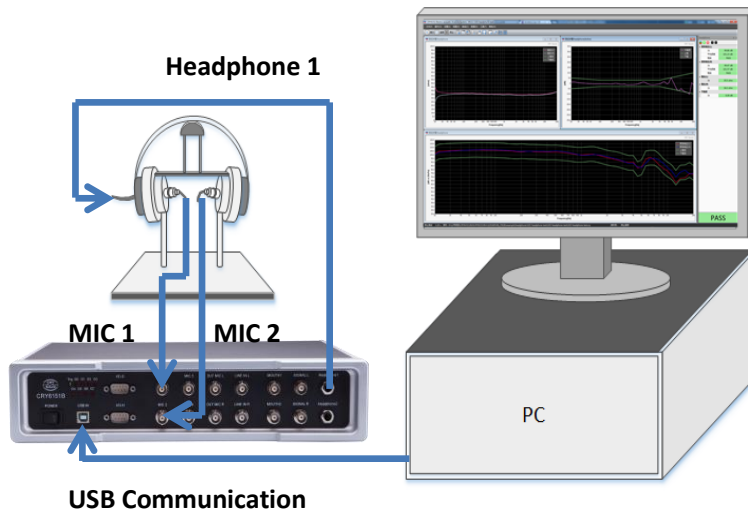**CRY6151B series electroacoustic analyzer could test the following transducers:**

- ✓ Headphone, Earphone

- ✓ Microphones (Electret Mic, Dynamic Mic, MEMS Mic.)

- ✓ Loudspeaker

- ✓ Receiver

- ✓ USB headphone, microphone or combination

- ✓ Bluetooth speaker, headphone, microphone or combination

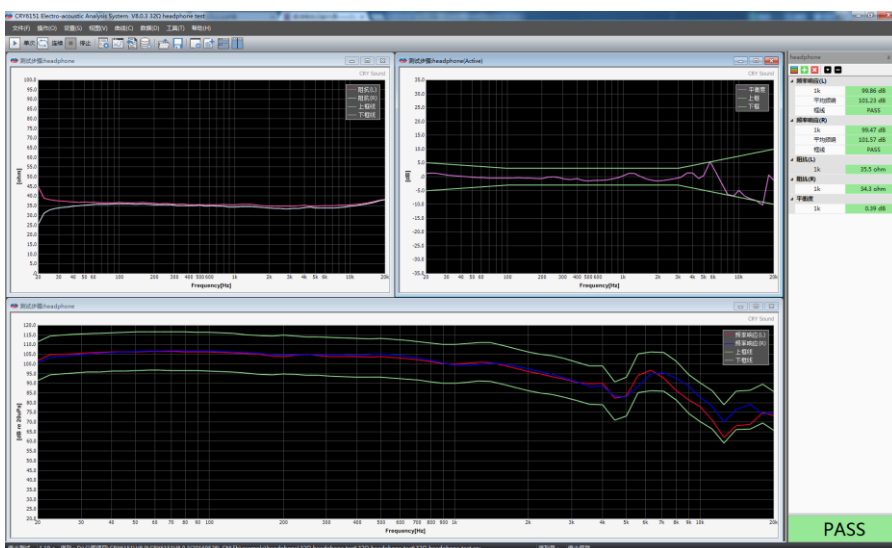# Typical Application

*Earphone Test System*

## Hardware Connection



**Basic Accessories**

- ✧ CRY6151B Host
- ✧ Full-functional Software
- ✧ CRY318 Artificial Ear
- ✧ CRY332 Measurement Microphone
- ✧ CRY506 Preamplifier
- ✧ CRY Earphone Test Stand
- ✧ Power cable, Test cables

**Optional Accessories:**

- ✧ CRY5611 Sound Calibrator
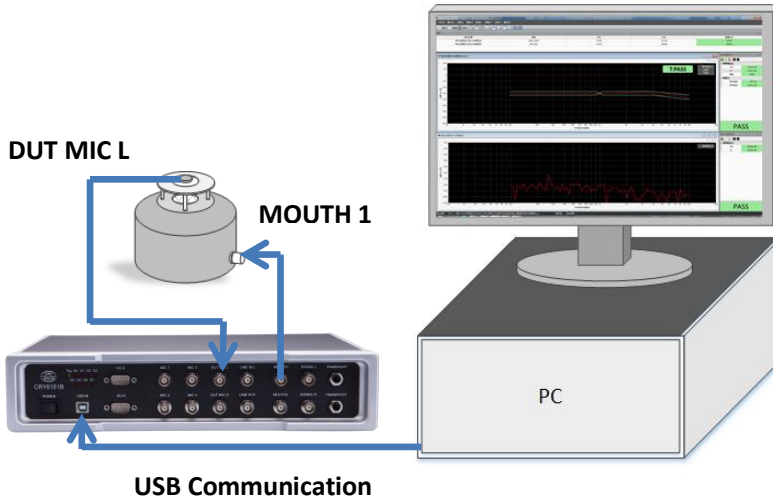- ✧ CRY711 Artificial Ear

## Software Interface



**Test parameters**

- ✓ Frequency Response
- ✓ Average Sensitivity
- ✓ Impedance & Impedance Curve
- ✓ Resonance Frequency F0
- ✓ THD & THD Curve
- ✓ Harmonic Energy
- ✓ Polarity
- ✓ Phase Curve
- ✓ Left and Right Balance
- ✓ Receiving Loudness Rating
- ✓ Left and Right Position
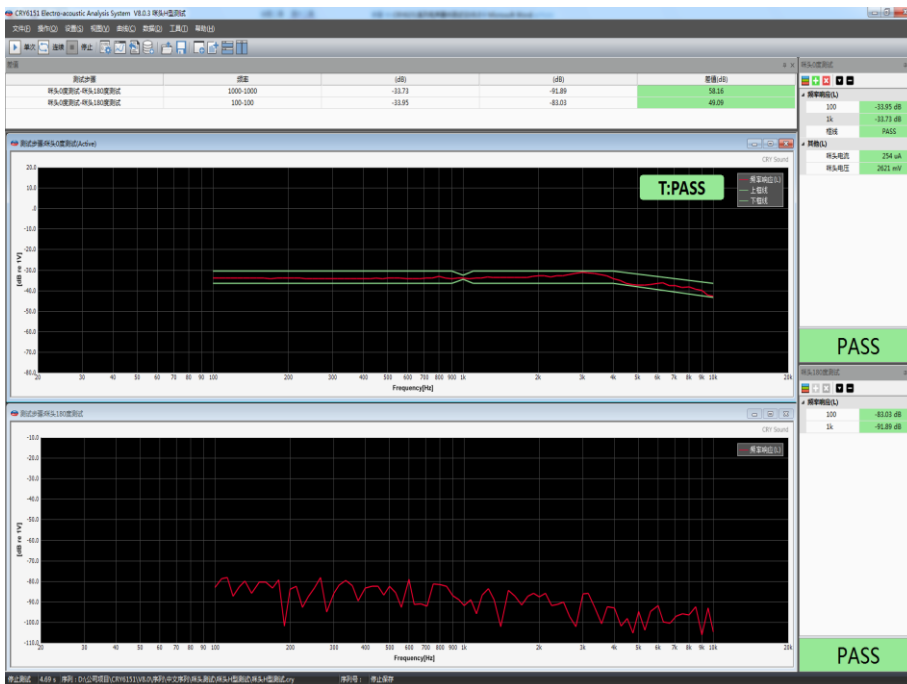
## *Microphone Test System*

## Hardware Connection



**DUT MIC L**

**MOUTH 1**

**PC**

**USB Communication**

**Basic Accessories**

- ✧ CRY6151B Host
- ✧ Full-functional Software
- ✧ CRY602 Artificial Mouth
- ✧ Power cable, Test cables

**Optional Accessories**

- ✧ CRY5611 Sound Calibrator
- ✧ CRY332 Measurement Microphone
- ✧ CRY506 Preamplifier

## Software Interface



**Test Parameters**

- ✓ Frequency Response
- ✓ Average Sensitivity
- ✓ THD & THD Curve
- ✓ Sending Loudness Rating
- ✓ Microphone Current
- ✓ Directional Response

# Service and Support

## Excellent Technical Support

◆Sales engineers would reply your problems in 24 hours.

## Equipment Warranty

◆  One year free limited warranty

◆  Life time low cost warranty

## PURCHASE NOW!

If you want to know more information such as the technical specification, price and other detail

## Please contact:

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