

Measure Better Sound

CRYSOUND

PRODUCT CATALOG

Measurement Microphones

AcSoft
Noise, Vibration & Air Quality

HQ

15 Stephenson Court
Fraser Road
Priory Business Park
Bedford MK44 3WJ

01234 639550

acsoft.co.uk

sales@acsoft.co.uk

Technical Centre

AcSoft Limited
11 Abbey Court, Fraser Road
Priory Business Park
Bedford MK44 3WH

01234 639550

acsoft.co.uk

sales@acsoft.co.uk



CONTENTS

CRY SOUND

HANGZHOU CRY SOUND ELECTRONICS CO.,LTD.

Established in 1997, CRY SOUND is a cutting-edge company that specializes in delivering exceptional acoustic measurement products and solutions to its customers. Under the visionary leadership of our founder, Mr. Ruiying Cao, CRY SOUND has garnered extensive expertise and developed numerous technologies in the field of acoustic measurement.

Currently, our company boasts an impressive portfolio of four distinct product lines, including measurement microphones, electroacoustic analysis systems, acoustic imagers, and noise & vibration analysis systems. By offering these diverse solutions, CRY SOUND caters to the unique needs of our valued clientele.

We take immense pride in our global presence, as our business has now expanded to over 80 countries. With a customer base exceeding 10,000 worldwide, we have successfully empowered numerous organizations around the globe with our state-of-the-art products and innovative solutions. Our typical customers include Beats, Samsung, Herman, SONY, Philips, Exxon mobil, Chevron, BYD, Honda, Nestle, etc.

Looking ahead, CRY SOUND remains steadfast in its commitment to providing world-leading acoustic measurement solutions to our discerning customers. We are dedicated to empowering various industries with our cutting-edge technology and ensuring their continued success through the utilization of our acoustic measurement solutions.

TECHNOLOGY INTRODUCTION 04

MICROPHONES & MICROPHONES SETS 08

Microphones	08
Pre-amplifier	13
Microphones Sets	14

EAR SIMULATOR 17

Coupler	18
Ear Simulator	19

EAR SIMULATOR & COUPLER SETS 20

Coupler Sets	20
Ear Simulator Sets	21

ACCESSORIES 22

Adapter	23
Electrostatic Exciter	24

SOUND SOURCE 25

MOUTH SIMULATOR 26

TECHNOLOGY INTRODUCTION

There are multiple types of measurement microphones, covering various frequency ranges, dynamic ranges, and application scenarios. The following information will help understand the characteristics of measurement microphones and select the appropriate one for specific applications. The selection of a measurement microphone involves several parameters, which can be summarized as follows:

- External polarization and pre-polarization
- Free field and pressure field
- Dynamic range

▲ Capacitive Microphone

Its cartridge is a flat capacitor. One of the electrodes is called the backplate, which remains fixed, while the other electrode is the diaphragm, typically made of a thin metal or metal-coated plastic film. Sound waves drive the diaphragm to vibrate, altering the distance between the two plates and causing a change in capacitance. This change in capacitance results in a variation of the current within the electrical circuit, generating an alternating current output voltage. This process effectively converts sound energy into electrical energy.

Due to the small capacitance of the cartridge and the high output impedance, a preamplifier circuit is generally required to form an impedance converter, transforming the high impedance into a low impedance output. Capacitive microphones have advantages such as a lightweight and thin diaphragm, high sensitivity, flat frequency response, and good transient response. However, they have drawbacks including complex manufacturing processes, lower reliability, the need for excellent shock and vibration protection, and a requirement for a higher DC bias voltage, resulting in standby power consumption.

The working principle of a condenser microphone is based on fixed charge. This charge can be obtained through a high-resistance external polarization voltage or by a deposited polarizing layer on the backplate. Therefore, condenser microphones are divided into pre-polarized microphones and externally polarized microphones.

▲ Pre-polarized

Pre-polarized microphones: Pre-polarized microphones are made with a polarizing material. The polarizing material is a permanently polarized dielectric, requiring no external polarization voltage. They are lower in cost, simpler, easier to adjust, and exhibit higher reliability under extreme humidity conditions.

▲ External-polarized

Externally polarized microphones: These microphones typically have a larger dynamic range and can withstand higher temperatures, but the temperature tolerance is often limited by the preamplifier. The microphone should not operate at a polarization voltage higher than the nominal value as it can result in excessive leakage or even arcing, both of which lead to instability. If the microphone operates at a polarization voltage lower than the nominal value, sensitivity and frequency response will be affected.

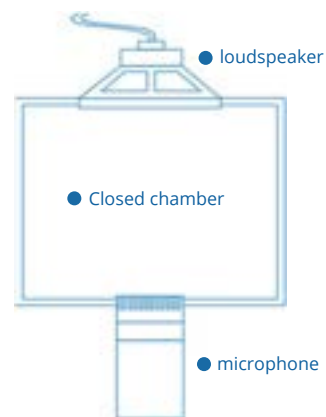
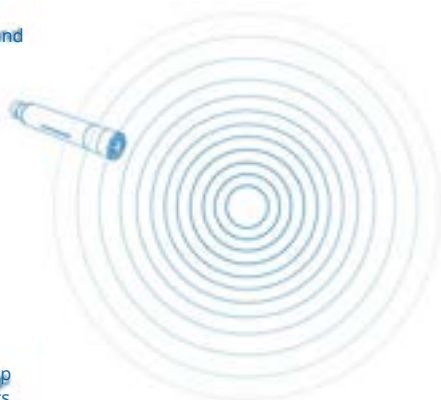
TECHNOLOGY INTRODUCTION

The size and shape of a measurement microphone can affect sound pressure. This influence depends on the type of sound field and is considered in the design of each microphone. By optimizing the microphone response to compensate for this effect, a flat response can be achieved for a given sound field. Measurement microphones are mainly divided into three categories: Free Field, Pressure Field, Diffuse Field. Each optimized for one of the three primary sound fields. Therefore, choosing the most suitable microphone for the sound field is crucial.

▲ Free Field

Free field refers to an acoustic environment where sound waves can propagate freely without encountering any obstacles, resulting in no reflections.

A free-field microphone is designed essentially to measure the sound pressure as it was before the microphone was introduced into the sound field. It is generally used for acoustic measurements in open environments, anechoic chambers and other environments with no acoustic reflections. It can also be applied in noise testing to accurately measure the noise level generated by sound sources. It can be used for conventional electroacoustic measurements of various speakers and transducers, providing accurate acoustic parameters. It can be applied in the field of acoustic research to help researchers understand the propagation characteristics of sound in free-field conditions.



▲ Pressure Field

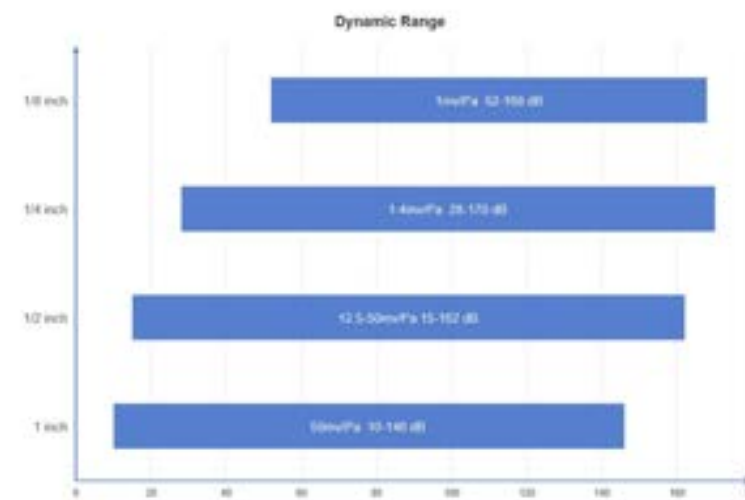
In a pressure field, the sound pressure at any location is the same in magnitude and phase. A sound field close to a pressure field can be created in small cavities (with small wavelengths) such as ear simulators.

A pressure microphone is for measuring the real sound pressure on the surface of the microphone's diaphragm. It is typically used in conjunction with a coupler chamber and can also be used to measure the sound pressure level inside enclosed cavities. It can also serve as a diffuse field transducer. It can be used for random incidence measurements and 90° incidence free-field measurements.

Its wide frequency range and high dynamic range make it suitable for component testing in various fields such as telecommunications, electroacoustics, automotive, and aerospace industries.

▲ Dynamic Range

The dynamic range of a measurement microphone (such as 16 – 143 dB) refers to the range in which the microphone can function as a linear sensor. This is not only a function of the microphone alone but also of the preamplifier used with the microphone. The dynamic range of a microphone is largely dependent on its sensitivity. In general, highly sensitive microphone can measure very low sound pressure levels, rather than not very high levels. In contrast, a lowly sensitive microphone is able to measure very high levels. The sensitivity of a microphone is determined chiefly by the size of the microphone and the tension of its diaphragm. Generally speaking, the larger the microphone and the looser its diaphragm, the higher the sensitivity.



The first number represents the inherent noise. Under absolute quiet conditions, even when the diaphragm of a microphone is not subjected to any sound waves, a condenser microphone will produce an extremely low-level output signal due to the limitations of electronic components and Brownian motion. The voltage generated by this noise level is the same as the voltage generated by the microphone's self-noise, making it impossible to measure sound stimulus signals below the output signal by itself.

The second number represents the maximum sound pressure level that can be measured with total harmonic distortion below 3%. Just as low-level signals of a microphone are limited by equivalent noise thresholds, high-level signals are also limited by overload distortion. The maximum sound pressure level indicates the maximum sound pressure that the microphone can withstand before the output signal reaches 3% total harmonic distortion.

Measurement Microphone



Titanium

Diaphragm



MEASUREMENT MICROPHONES

Our measurement microphones use titanium film structure, which has extremely high stability and accuracy even in harsh environments. We assemble these microphones in a clean room. Each measurement microphone undergoes rigorous aging tests before leaving the factory to ensure good stability.

According to customers' typical measurement needs, we provide you with measurement microphone sets. These sets can meet most of your needs. We provide different interfaces to make these measurement microphone sets easily connect to professional measurement systems.

CRYSOUND offer 10 years warranty, Each microphone is accompanied by its corresponding calibration report upon factory shipment. If you accidentally damage the diaphragm of the microphone, our repair technique allows for fixing it at a very reasonable price, ensuring a minimal maintenance cost.



MEASUREMENT MICROPHONES

PRE-POLARIZED/ FREE-FIELD



◀ CRY3101 (1")

CRY3101 is a high sensitivity microphone with a typical background noise level of less than 12dBA. It can measure sound pressure levels upto 140dB. Commonly used for capturing low-frequency signals in free-field testing environments



◀ CRY3203 (1/2")

CRY3203 is a high sensitivity microphone with a frequency range from 3.15kHz-20kHz. The frequency range is the same as the audible frequency range of the human ear which makes it ideal for environmental noise measurements.



◀ CRY3403 (1/4")

CRY3403 is a low sensitivity microphone with a high frequency range of up to 90kHz and high sound pressure level up to 165dB. Its unique design and smaller size make it ideal for high-frequency and high sound pressure measurement.



◀ CRY3401 (1/4")

CRY3401 is a high precision microphone for general purpose with frequency range from 4Hz-40kHz. Can measure sound pressure levels from 26dB-145dB. Generally used for high-frequency and high sound pressure levels measurement.



◀ CRY3201 (1/2")

CRY3201 is a high precision microphone for measuring with frequency from 3.15Hz to 40kHz. Can measure high sound pressure levels up to 160dB. Easy to configure and user-friendly, making it highly suitable for production line use.

Model	Diameter	Sensitivity	Frequency Response	Dynamic Range	Sound Field	Polarized Voltage
CRY3101	1 inch	50mV/Pa	4Hz-16kHz	12-140dB	Free-field	0
CRY3203	1/2 inch	50mV/Pa	3.15Hz-20kHz	16-146dB	Free-field	0
CRY3403	1/4 inch	4mV/Pa	4Hz-90kHz	35-165dB	Free-field	0
CRY3401	1/4 inch	15.8mV/Pa	4Hz-40kHz	26-145dB	Free-field	0
CRY3201	1/2 inch	12.5mV/Pa	3.15Hz-40kHz	23-160dB	Free-field	0

PRE- POLARIZED/PRESSURE- FIELD



◀ CRY3102 (1")

CRY3102 is a high sensitivity microphone with a typical background noise level of less than 12dBA. It can measure sound pressure levels upto 146dB. Commonly used for capturing low-frequency signals in pressure-field testing environments



◀ CRY3204 (1/2")

CRY3204 is a high sensitivity microphone with frequency from 3.15Hz-10kHz. Its small size makes it suitable for low-noise testing, audio information acquisition, audio recording. Can measure sound pressure levels from 16dB-146dB



◀ CRY3402 (1/4")

CRY3402 is a low sensitivity microphone with a high frequency range of up to 70kHz and high sound pressure level up to 170dB. Its unique design and smaller size make it ideal for high-frequency and high sound pressure measurement.



◀ CRY3406 (1/4")

CRY3406 is a low-noise microphone with frequency from 4Hz-20kHz. Its small size makes it suitable for low-noise testing, audio information acquisition, audio recording. Can measure sound pressure levels from 26dB-140dB



◀ CRY3404 (1/4")

CRY3404 is a low sensitivity microphone that is ideal for measuring very high sound pressure levels up to 175 dB. Specifically designed for high sound pressure signal acquisition and typically used for acoustic testing of high-quality in-ear headphones.



◀ CRY3202 (1/2")

CRY3202 is suitable for high-frequency response and high sound pressure level measurements. It can perform tests such as headphone wideband testing. Easy to configure and user-friendly, making it highly suitable for production line use.

Model	Diameter	Sensitivity	Frequency Response	Dynamic Range	Sound Field	Polarized Voltage
CRY3102	1 inch	50mV/Pa	4Hz-8kHz	12-146dB	Pressure-field	0
CRY3204	1/2 inch	50mV/Pa	3.15Hz-10kHz	16-146dB	Pressure-field	0
CRY3402	1/4 inch	1.6mV/Pa	4Hz-70kHz	45-170dB	Pressure-field	0
CRY3406	1/4 inch	15.8mV/Pa	4Hz-20kHz	26-140dB	Pressure-field	0
CRY3404	1/4 inch	0.56mV/Pa	10Hz-20kHz	59-175dB	Pressure-field	0
CRY3202	1/2 inch	12.5mV/Pa	3.15Hz-20kHz	23-160dB	Pressure-field	0

MEASUREMENT MICROPHONES

EXTERNAL-POLARIZED FREE- FIELD



◀ CRY3285(1/2")

CRY3285 is a high sensitivity microphone with a frequency from 3.15Hz-20kHz. Can measure sound pressure level from 16dB -146dB. Suitable for acoustic testing instruments, multi-channel noise analyzers, sound level meters, and other similar devices.



◀ CRY3485(1/4")

CRY3485 is low sensitivity microphone for wide band response and high sound pressure testing. Can measure frequency up to 90kHz and sound pressure levels up to 165dB. Generally used for high-frequency and high sound pressure levels measurement.



◀ CRY3281(1/2")

CRY3281 is a low sensitivity microphone with a frequency from 3.15Hz-40kHz. Can measure sound pressure level from 23dB -160dB. Suitable for high-frequency and high sound pressure measurements in free-field environments.

EXTERNAL-POLARIZED PRESSURE-FIELD



◀ CRY3284(1/2")

CRY3284 is a high sensitivity microphone with a frequency from 3.15Hz-10kHz. Can measure sound pressure level from 16dB -146dB. Suitable for low-noise testing, audio information acquisition, audio recording.



◀ CRY3482 (1/4")

CRY3482 is low sensitivity microphone for wide band response and high sound pressure testing. Can measure frequency up to 90kHz and sound pressure levels up to 170dB. Meets the needs of high-frequency acquisition testing



◀ CRY3282(1/2")

CRY3282 is a low sensitivity microphone with a frequency from 3.15Hz-20kHz. Can measure sound pressure level from 23dB -160dB. Suitable for high-frequency, high sound pressure acoustic testing in pressure field environments.

Model	Diameter	Sensitivity	Frequency Response	Dynamic Range	Sound Field	Polarized Voltage
CRY3285	1/2 inch	50mV/Pa	3.15Hz-20kHz	16-146dB	Free-field	200
CRY3485	1/4 inch	4mV/Pa	4Hz-90kHz	35-165dB	Free-field	200
CRY3281	1/2 inch	12.5mV/Pa	3.15Hz-40kHz	23-160dB	Free-field	200

Model	Diameter	Sensitivity	Frequency Response	Dynamic Range	Sound Field	Polarized Voltage
CRY3284	1/2 inch	50mV/Pa	3.15Hz-10kHz	16-146dB	Pressure-field	200
CRY3482	1/4 inch	1.6mV/Pa	4Hz-70kHz	45-170dB	Pressure-field	200
CRY3282	1/2 inch	12.5mV/Pa	3.15Hz-20kHz	23-160dB	Pressure-field	200

PREAMPLIFIER



◀ CRY3501(1/2")

IEPE power. The terminal connector for output is BNC which is convenient to connect to other instrument to input. It is characterized by high input impedance, low background noise and broadband sound range. It can be compatible with 1/2 inch prepolarization measurement microphone is used.



◀ CRY3502(1/2")

IEPE power with SMB terminal connector for output. It is characterized by high input impedance, low background noise and broadband sound range. It can be compatible with 1/2 inch prepolarization measurement microphone is used.



◀ CRY3521(1/2")

IEPE power and base-type preamplifier with BNC terminal connector for output. It is characterized by high input impedance, low background noise and broadband sound range. It can be compatible with 1/2 inch prepolarization measurement microphone is used.



◀ CRY3541(1/4")

IEPE power with SMB terminal connector. It can combine with 1/4 inch measurement microphone to transform the impedance and amplify the acoustic signal. It is used for the condition of electroacoustic test system or multi-noise analysis.



◀ CRY3542(1/4")

CRY3542 preamplifier is powered by a constant current source with SMB terminal connector. It can combine with 1/4 inch measurement microphone to transform the impedance and amplify the acoustic signal. It is used for the condition of electroacoustic test system or multi-noise analysis.

Model	Diameter	Frequency Range	Input Impedance	Output Independence	Connector	Noise-Linear	Noise(A-weighted)
CRY3501	1/2 inch	20Hz-50KHz (±0.2dB) 10Hz-100KHz (±0.5dB)	>10GΩ/0.5pF	<20Ω	BNC	<10μVrms	<3μVrms
CRY3502	1/2 inch	20Hz-50KHz (±0.2dB) 10Hz-100KHz (±0.5dB)	>10GΩ/0.5pF	<20Ω	SMB	<10μVrms	<3μVrms
CRY3521	1/2 inch	20Hz-50KHz (±0.2dB) 10Hz-100KHz (±0.5dB)	>10GΩ/0.5pF	<20Ω	BNC	<10μVrms	<3μVrms
CRY3541	1/4 inch	10Hz-80KHz (±0.2dB)	>2GΩ/50pF	<20Ω	SMB	<10μVrms	<3μVrms
CRY3542	1/4 inch	10Hz-100KHz (±0.2dB)	>2GΩ/50pF	<20Ω	SMB	<10μVrms	<3μVrms

MEASUREMENT MICROPHONESSET

FREE-FIELD



◀ CRY361-S01(1/2")

It is a pre-polarized free-field microphone kit specifically designed for testing extremely low sound signals. It is suitable for recording studios, audio production, and precise acoustic testing. It also finds wide applications in the fields of acoustics, speech recognition, audio processing, and audio information acquisition.



◀ CRY3403-S01(1/4")

It is a pre-polarized free-field microphone kit specifically designed for testing high-frequency and high sound pressure level. Consists of CRY3403 + CRY3541. It can meet the acoustic testing requirements for both non-reflective free-field and semi-free-field environments.



◀ CRY3401-S01(1/4")

Consists of CRY3401 + CRY3541. Suitable for conducting acoustic tests in high-frequency and high sound pressure level conditions within a free-field testing environment.



◀ CRY3203-S01(1/2")

Consists of CRY3203 + CRY3501. Widely applied in acoustic testing environments, including non-reflective free-field and semi-free-field conditions. It is also utilized in noise detection, acoustic research, audio measurements, and more.



◀ CRY3201-S01(1/2")

Consists of CRY3201 + CRY3501. Suitable for precise high-frequency and high sound pressure level acoustic testing in free-field testing environments. It features simple configuration, user-friendly operation, and is highly suitable for production line use.



◀ CRY3101-S01(1")

Consists of CRY3101 + CRY3501. A low-noise, cost-effective pre-polarized free-field measurement microphone kit suitable for audio recording, audio information acquisition, acoustic testing, and other related fields.

Model	Diameter	Sensitivity	Frequency Response	Dynamic Range
CRY361-S01	1/2 inch	354 mV/Pa (-9 dBV) ±2 dB @1kHz	3.15Hz-20kHz ±3dB 10Hz ~ 10kHz ±2dB	7.5dBA ~ 115dB
CRY3403-S01	1/4 inch	4mV/Pa	4Hz-90kHz	35-154dB
CRY3401-S01	1/4 inch	15.8mV/Pa	4Hz-40kHz	26-140dB
CRY3203-S01	1/2 inch	50mV/(-26dB)±2dB	3.15Hz-20kHz±2dB	16-132dB
CRY3201-S01	1/2 inch	12.5mV/Pa	3.15Hz-40kHz	23-145dB
CRY3101-S01	1 inch	50mV/Pa	4Hz-16kHz	12-132dB

MEASUREMENT MICROPHONESSET

PRESSURE-FIELD



◀ CRY3402-S01(1/4")

Consists of CRY3402 + CRY3541. It is a specifically designed pre-polarized pressure-field microphone kit for testing high-frequency and high sound pressure level conditions.



◀ CRY3406-S01(1/4")

Consists of CRY3406 + CRY3541. It is applied in pressure-field acoustic testing environments. It is also used in component testing in various fields such as telecommunications and automotive industries.



◀ CRY3202-S01(1/2")

Consists of CRY3202 + CRY3501. It can also be used for acoustic testing of high-quality in-ear headphones. Typically, it is used in conjunction with a coupler chamber to perform headphone wideband testing and other tests that traditional ear simulators cannot achieve.



◀ CRY3204-S01(1/2")

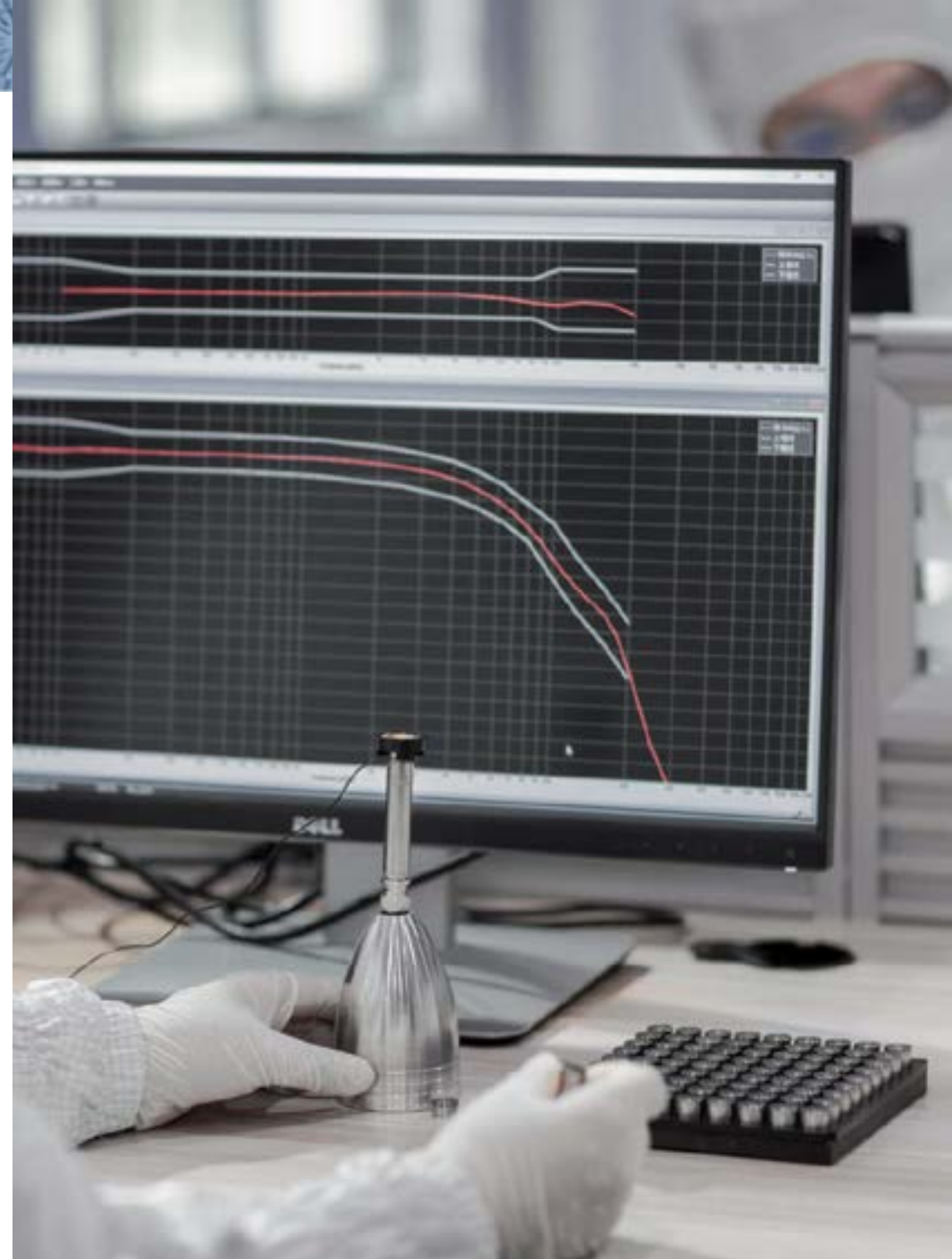
Consists of CRY3204 + CRY3501. It is applied in various fields, including pressure-field acoustic testing environments. It is also used in the fields of electroacoustics and audio electronics.



◀ CRY3102-S01(1")

Consists of CRY3102 + CRY3501. A low-noise, cost-effective pre-polarized pressure-field measurement microphone kit suitable for audio information acquisition, audio recording, and related fields.

Model	Diameter	Sensitivity	Frequency Response	Dynamic Range
CRY3402-S01	1/4 inch	1.6mV/Pa	4Hz-70kHz	45-164dB
CRY3406-S01	1/4 inch	15.8mV/Pa	4Hz-20kHz	26-140dB
CRY3202-S01	1/2 inch	12.5mV/Pa	3.15Hz-20kHz	23-144dB
CRY3204-S01	1/2 inch	50mV/Pa	3.15Hz-10kHz	16-132dB
CRY3102-S01	1 inch	50mV/Pa	4Hz-8kHz	12-132dB



EAR SIMULATOR

The human ear is a complex structure in acoustics, with volume, channels, and damping, resulting in complex acoustic impedance. Additionally, at higher frequencies, diffraction around the outer ear alters the sound field, leading to unique acoustic impedance and resulting in the unique response of the inner ear.

To compare and quantify measurement results related to the human ear, many international standards and recommendations define 'ideal' or average ears, which can be simulated by more or less complex mechanical and acoustic systems. An example of standardizing the human ear is the IEC 60318-1 & 2 (60318) coupler, which has the same acoustic input impedance as an average human ear. Another example is the IEC 60318-4 occluded ear simulator used to measure headphones coupled to the ear through earplugs.

It can be installed in various measurement devices and used to test telephones, hearing aids, headphones, earsets, etc., making on-site human testing more realistic.



COUPLER



◀ CRY3719

Mainly used for acoustic measurements of in-ear monitors and earbud-style headphones. It is also suitable for conducting electroacoustic characteristic experiments of household and similar appliances, information technology devices, audio, video, and similar electronic equipment under real working conditions.



◀ CRY3717

Designed for measurements in the field of acoustics and related areas, it can be used for electroacoustic measurements of headphones, audiometers, as well as coupler chamber testing and other applications.

Model	Standards	Frequency Range	Equivalent Volume	Weight
CRY3719	60318-5, ANSI S3.7, IEC 61094-4	125Hz-8kHz	2cc	
CRY3717	60318-3	100Hz-8kHz±2dB	6cc	380g

EAR SIMULATOR

COUPLER SET



CRY3718

CRY3718 ear simulator is a measurement device that closely resembles human ear and loads a sound source in the same way with human ear. It mainly used for acoustic measurements on telephone handsets and earphones.



CRY3711

CRY3711 is an ear simulator that mimics the way an earbud tube is inserted into the ear canal or auricle, simulating the coupling of a head set to the human ear to measure the acoustic performance of the headset.

The CRY3711 Simulator has a built-in CRY3202 1/2" pressure field pre-polarized measurement microphone, which is typically used for acoustic testing of high quality in-ear headphones. It is made in strict accordance with international standards.

Model	Standards	Frequency Range	Equivalent Volume	Weight
CRY3718	IEC 60318-1 ITU-T P.57 Type 1	100Hz-10kHz ±1dB (Simulated human ear impedance) 20Hz-16kHz (Coupling cavity use)	\	52g
CRY3711	IEC 60318-4 ITU-T P.57 Type 2	100Hz-4kHz ±1dB (Simulated human ear impedance) 20Hz-16kHz (Coupling cavity use)	1.26cc	70g (including microphone)



CRY3719-S01

The whole unit includes a coupler cavity (CRY3719)+ a 1/2 inch pressure measurement microphone (CRY3202)+ a 1/2 inch preamplifier (CRY3502).

Mainly used for acoustic measurements of in-ear monitors and earbud-style headphones. It is also suitable for conducting electroacoustic characteristic experiments of household and similar appliances, information technology devices, audio, video.



CRY3717-S01

Consists of a coupler cavity (CRY3718)+ a 1/2 inch Pressure Measurement Microphone (CRY3202)+ 1/2 inch Preamplifier (CRY508C).

Designed for measurements in the field of acoustics and related areas, it can be used for electroacoustic measurements of headphones, audiometers, as well as coupler chamber testing and other applications.

Model	Standards	Frequency Range	Dynamic Range	Equivalent Volume	Weight
CRY3719-S01	60318-5, ANSI S3.7, IEC 61094-4	125Hz-8kHz	23-144dB	2cc	
CRY3717-S01	60318-3	100Hz-8kHz ±2dB	12-132dB	6cc	380g

EAR SIMULATORSET



◀ CRY3718-S01

Consists of an ear simulator Pedestal (CRY3718)+ an ½ inch Pressure Measurement Microphone (CRY3202)+ ½ inch Pre-amplifier (CRY3521).

Mainly used for Objective measurements of the acoustic characteristics of telephony handsets, on-ear headphones, and over-ear headphones, as well as other electroacoustic devices.



◀ CRY3711-S01

The whole unit includes an ear simulator pedestal (CRY3711)+ an ½ inch pressure measurement microphone (CRY3202)+ ½ inch preamplifier (CRY3521/CRY3502).

Primarily used for acoustical measurements of high-quality in-ear headphones, insert earphones, and audiometers, and to assess their quality based on the measurement results.



◀ CRY3721-S01

Consists of an ear simulator Pedestal (CRY3721)+ an microphone power supply(CRY575L)+ ½ inch preamplifier (CRY515).

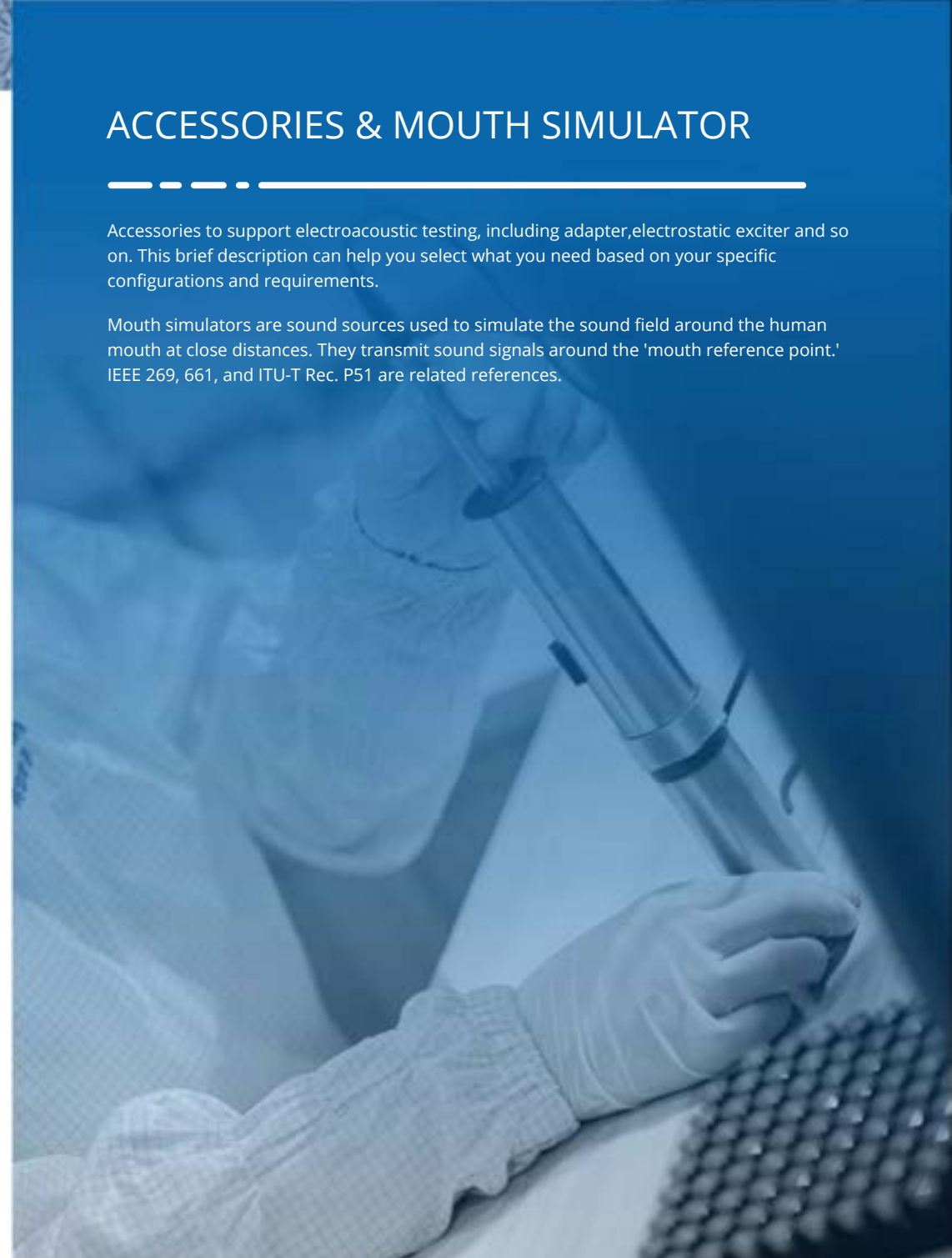
It provides a more accurate sound reproduction environment for headphone noise testing, ultra-low noise testing, acoustic testing of high-quality in-ear headphones, and coupler chamber testing

Model	Standards	Frequency Range	Dynamic Range	Equivalent Volume	Weight
CRY3718-S01	IEC 60318-1 ITU-T P.57 Type 1	100Hz-10kHz ±1dB (Simulated human ear impedance) 20Hz-16kHz (Coupling cavity use)	23-144dB	\	
CRY3711-S01	IEC 60318-4 ITU-T P.57 Type 2	100Hz-4kHz±1dB (Simulated human ear impedance) 20Hz-16kHz (Coupling cavity use)	23-144dB	1.26cc	70g (including microphone)
CRY3721-S01	IEC60318-4 ITU-T P.57 Type 2	20Hz-20kHz	9-115dB	1.26cc	50g

ACCESSORIES & MOUTH SIMULATOR

Accessories to support electroacoustic testing, including adapter, electrostatic exciter and so on. This brief description can help you select what you need based on your specific configurations and requirements.

Mouth simulators are sound sources used to simulate the sound field around the human mouth at close distances. They transmit sound signals around the 'mouth reference point.' IEEE 269, 661, and ITU-T Rec. P51 are related references.



ACCESSORIES

**ADAPTER SA0701**

Type 1 adapter compliant with standard IEC 60318-2. In conjunction with CRY3718, it objectively measures the acoustic characteristics of telephones, handset receivers, in-ear headphones, and over-ear headphones, as well as other electroacoustic devices and equipment.

It can also be used in conjunction with ear simulators compliant with standard IEC 60318-1, such as CRY3718, primarily for conducting silent leakage measurements of over-ear and in-ear headphones.

**1/2" to 1" ADAPTER RING SA0501**

It is convenient to connect a 1-inch microphone with a 1/2-inch preamplifier. Widely used in audio equipment, acoustic testing, recording devices, and other fields, it is a common audio accessory.

**1/2" to 1/4" ADAPTER RING SA0502**

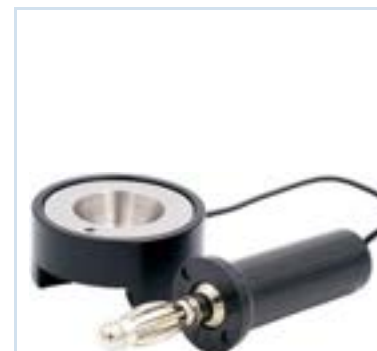
It is convenient to connect a 1/4-inch microphone with a 1/2-inch preamplifier. Widely used in audio equipment, acoustic testing, recording devices, and other fields, it is a common audio accessory.

ACCESSORIES

**1" ELECTROSTATIC EXCITER SA0301**

It is primarily used for testing the frequency response and sensitivity of 1-inch transducers. Through the electrostatic exciter, static electricity can be converted into sound waves, simulating sound signals of different frequencies and intensities to test the responsiveness and frequency response curve of the transducer. Additionally, the electrostatic exciter can be used to measure the open-circuit sensitivity of the transducer, which refers to the output voltage or current of the transducer when there is no load.

This equipment finds applications in testing and calibration of audio devices, as well as in sound signal processing. Due to its high precision and stability, the electrostatic exciter is widely used in the field of audio measurement and calibration.

**1/2" ELECTROSTATIC EXCITER SA0302**

It is primarily used for testing the frequency response and sensitivity of 1/2-inch transducers. Through the electrostatic exciter, static electricity can be converted into sound waves, simulating sound signals of different frequencies and intensities to test the responsiveness and frequency response curve of the transducer. Additionally, the electrostatic exciter can be used to measure the open-circuit sensitivity of the transducer, which refers to the output voltage or current of the transducer when there is no load.

This equipment finds applications in testing and calibration of audio devices, as well as in sound signal processing. Due to its high precision and stability, the electrostatic exciter is widely used in the field of audio measurement and calibration.

SOUND SOURCE



SPEAKER CRY3611

Reference sound source, low-frequency enhanced, and far-field reference sound source for environmental noise.
Distortion: 200-10kHz: <1%, typically <0.5%.
Frequency response: 100-15kHz.

Primarily used in electroacoustic testing scenarios, it is suitable for low-frequency testing and demanding electroacoustic tests, such as ANC testing, ENC testing. It is applicable for testing the frequency response, total harmonic distortion, and other acoustic parameter indicators of smart speakers, microphone arrays, speech recognition, and voice activation.

MOUTH SIMULATOR



CRY3602

CRY3602 mouth simulator is a sound source used to simulate the sound field near the human mouth. Widely used for testing acoustic parameters such as frequency response and distortion in telephony transmitters and microphones. It has a built-in power amplifier with the gain of 20dB. It can connect with sound card or signal generator directly without buying additional power amplifier, that simplifies the connection of test system.



CRY3603

CRY3603 high frequency mouth simulator is used to simulate high frequency sound sources in the sound field near the human mouth. Frequency response up to 40kHz. Mainly used in high-frequency microphone frequency response, distortion and other acoustic parameter index test. Meet the demand of high frequency acquisition test.



CRY3605

CRY3605 mouth simulator is a sound source which simulates the sound field around the human mouth at close quarters. Extremely low distortion, with distortion levels reaching international leading standards from 200Hz to 10kHz. Suitable for conducting acoustic characteristic tests of household and similar appliances, information technology devices, audio, video, and similar electronic equipment under real working conditions.

Model	Minimum Continuous Output Spl	THD	Lip Ring	Aperture Size	Built-in Power Amplifier Gain	Built-in Power Amplifier Gain	Height
CRY3602	200Hz ~ 10kHz: 110dB (25mmMRP) 100Hz ~ 10kHz: 100dB (25mmMRP)	200Hz~10KHz<1.5%, Typical: <1% (25mmMRP)	Height:25mm Outer diameter: Ø51mm	Ø20mm	20dB	20w	88mm
CRY3603	500Hz ~ 40kHz: 110dB (25mmMRP) 200Hz ~ 50kHz: 94dB (25mmMRP)	1kHz~40KHz<1.5%, Typical <1% (25mmMRP)	Height:28mm Outer diameter: Ø100mm	Ø20mm	\	\	88mm
CRY3605	200Hz ~ 10kHz: 110dB (25mmMRP) 100Hz ~ 10kHz: 100dB (25mmMRP)	200Hz~10KHz<0.8%, Typical <0.5% (25mmMRP)	Height:25mm Outer diameter: Ø45mm	Ø20mm	\	\	94mm