



Immersive
soundscapes

Handcrafted microphones, Nantes



Earsight Microphones

User and care guide

Binaural

Omnidirectional

Cardioid

ORTF

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Three things to know before you plug in

2V

The minimum PIP voltage for a mini-jack version. Below that, the microphone does not work.

10V

The higher the PIP voltage, the more headroom you get. The PIP/XLR adapter delivers 10V.

48V

XLR versions, the Professional, The One and the ORTF run on phantom power.



1 Introduction

Earsight microphones are compact, highly sensitive electret microphones with a very low noise floor, designed for field recording, sound design and studio recording. They are handcrafted in Nantes, France, by Philippe Renneville.

Anatomy of Earsight microphones

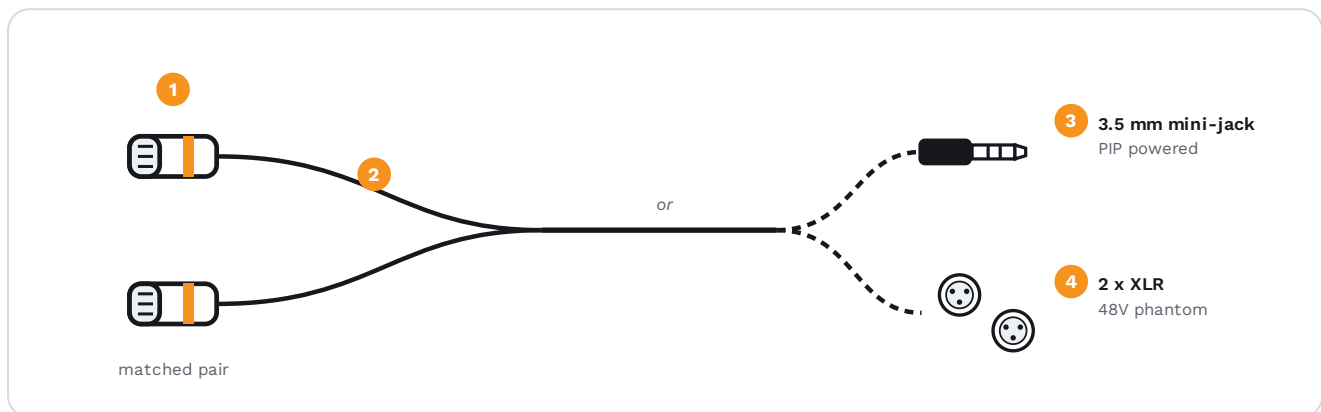


Fig. 1.1 Principle diagram of a stereo pair. The termination depends on the version you ordered.

- 1 **Electret capsules**, matched so that both channels behave identically.
- 2 **Cables**, length chosen when ordering.
- 3 **3.5 mm mini-jack version**: powered by the recorder's plug-in power (PIP).
- 4 **XLR version**: powered by 48V phantom, standard or low-profile connectors (Fig. 2.2).

Plug-on. The One and the ORTF have no cable: they mount directly onto the recorder's XLR inputs (chapter 5).

From the workshop to your bag

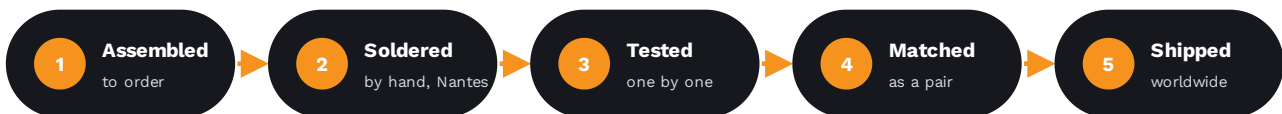


Fig. 1.2 The journey of every Earsight pair.

What you will find in this guide

How to choose a model, power it correctly, connect it, protect it from wind, look after it, diagnose common faults and use it with the main stereo techniques.

2 The Earsight range

First question: omni or cardioid

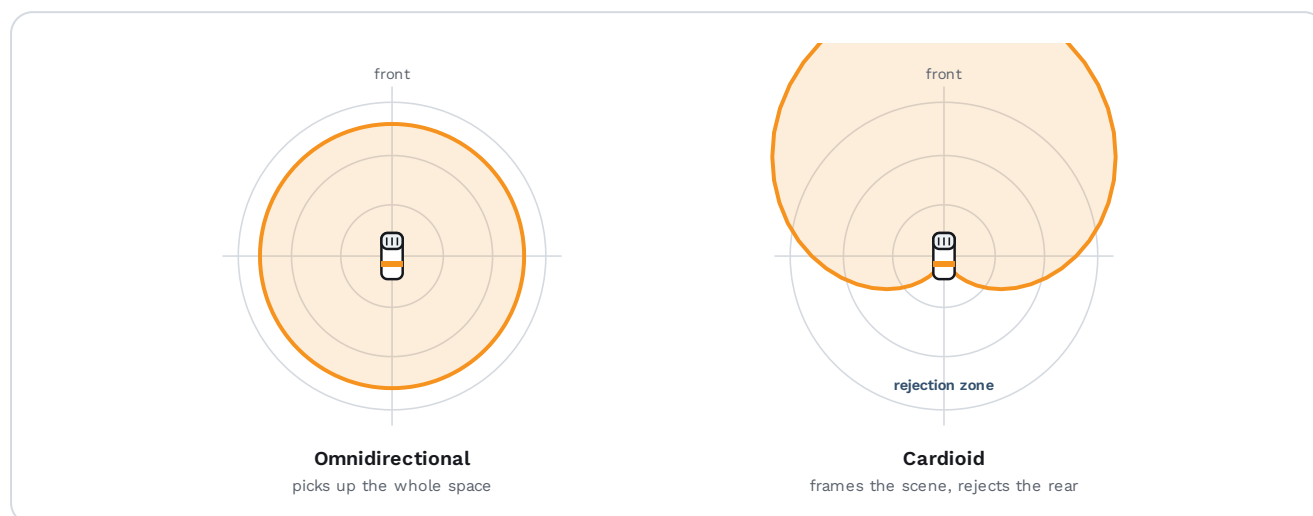


Fig. 2.1 Polar patterns seen from above. The orange area shows what the microphone picks up.

Omnis pick up the whole space with the lowest self-noise in the range (14 to 19 dBA). The choice for ambiances, nature and quiet places.

Cardioids reject the rear and let you frame a scene: a stream, birdsong, a street musician, an instrument.

Choosing by need

You want to...	Look first at
Hear on headphones exactly what you heard on location	Binaural
One pair for almost everything	Standard V2
The most discreet and lightest microphone	Nano 2
A cable-free rig on FR-AV2, Zoom F3/F6 or MixPre	The One (omni) or ORTF (cardioid)
Record very loud sources	Professional
Frame a source and reject the rear	Cardioid or ORTF
A microphone adapted to your constraints	Modular construction: Earsight microphones are modular and their construction can be adapted to your constraints.
A microphone that does not exist yet	Special microphones: adaptations, new shapes, design on request. Contact the workshop.

The website home page also offers the “Which Earsight is right for you?” wizard (FR/EN), which guides this choice in a few questions.

The models at a glance

Model	Type	Noise (dBA)	Sensitivity (dB)	Powering	Best for
 Standard V2	Matched omni pair	14	-24	XLR 48V or mini-jack PIP	Quiet ambiances, nature, city. The most versatile.
 Binaural	In-ear omni pair	14	-24	XLR 48V or mini-jack PIP	3D sound on headphones, soundwalks, ASMR, stealth recording.
 Nano 2	Miniature omni pair	17	-27	XLR 48V or mini-jack PIP	Stealth recording, hidden mics, minimal weight.
 The One	Plug-on omni stereo	14	-24	XLR 48V	All-in-one rig on Tascam FR-AV2, Zoom F3/F6, MixPre, PR-4.
 Professional	Omni pair, steel or carbon. Choice of two capsules	14 low noise 19 high SPL	-24 low noise -35 high SPL	XLR 48V only	Low-noise capsule (110 dB max SPL): quiet ambiances, nature. High-SPL capsule (135 dB max SPL): concerts, machinery, storms, vehicles.
 ORTF	2 plug-on cardioids	22	-37	XLR 48V	Wide, mono-compatible image, no stereo bar or stand.
 Cardioid	Matched cardioid pair	22	-37	XLR 48V or mini-jack PIP	X/Y, ORTF, instruments, voice, framed ambiances.
 Thumb	Omni or cardioid capsule. Straight, Angled or BBG	14 omni 22 cardio	-24 omni -37 cardio	XLR 48V	Omni capsule: A/B, stealth recording, tree ears. Cardioid capsule: X/Y, ORTF.

Three pointers for reading this table

- **Loud sources.** Only the Professional, with its high-SPL capsule, is rated for 135 dB SPL. It is the choice for concerts, machinery, storms and vehicles.
- **XLR or mini-jack.** The XLR version runs on 48V phantom. The mini-jack version depends on your recorder's PIP voltage (chapter 4).
- **With or without a cable.** The One and the ORTF attach to the recorder: a complete rig that fits in a bag pocket.

Standard XLR or low-profile XLR

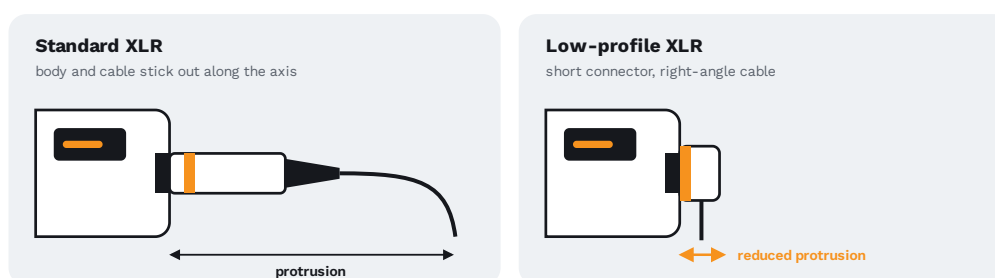


Fig. 2.2 The two XLR terminations offered when ordering. The low-profile one sticks out far less from the recorder: handy in a small bag. Principle diagram.

3 Technical specifications

Self-noise and sensitivity by model, then the specifications shared across the range.

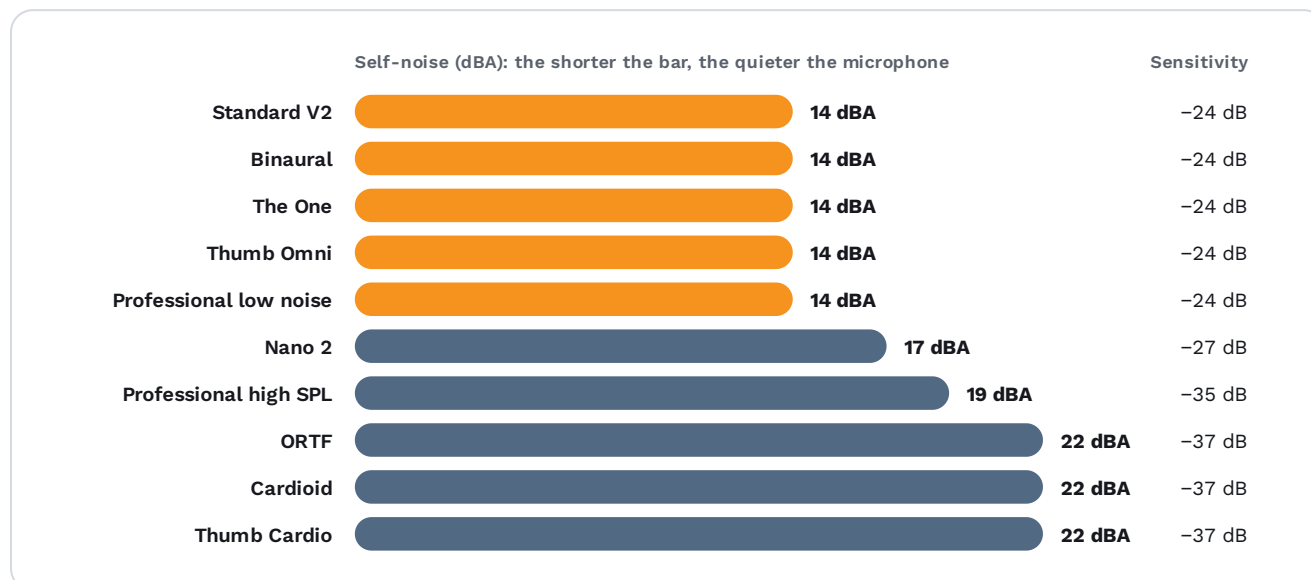


Fig. 3.1 Self-noise and sensitivity of each model. In orange: the quietest models.

Self-noise: the hiss of the microphone itself. The lower it is, the quieter the places you can record.

Sensitivity: the level delivered for a given sound. A value close to zero (-24) gives more signal than one further away (-37).

Specification	Value
Technology	Electret capsules, hand-matched and tested
XLR powering	48V phantom
Mini-jack powering (PIP)	2V minimum, up to 10V
PIP/XLR adapter output	10V from 48V phantom
Maximum level	110 dB SPL; 135 dB SPL for the Professional with the high-SPL capsule
Cable lengths	0.5 m, 1.5 m, 3 m or on request; Binaural: 1.5 m or on request
ORTF geometry	2 cardioids, 110°, 17 cm
Connectors	Neutrik XLR, standard or low-profile; 3.5 mm stereo mini-jack
The One construction	3D-printed in carbon-reinforced material
Professional body	Steel, or carbon fibre (Carbon edition)
Assembly time	1 to 5 days, made to order

4 Powering, compatibility and wiring diagrams

The mini-jack version needs at least 2V of plug-in power (PIP). The higher the voltage, up to 10V, the more headroom you get. This is the point to check before any purchase or first recording.

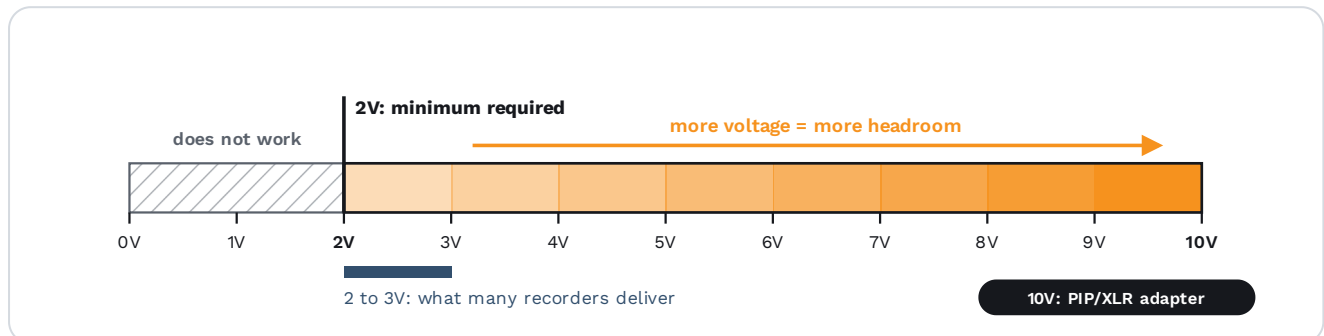


Fig. 4.1 PIP voltage and headroom of electret capsules.

Many recorders only supply 2 to 3V of PIP, which limits headroom. At 10V the microphones work with their full dynamic range. The PIP/XLR adapter converts the 48V phantom of an XLR input into a clean 10V for the microphone.

The three possible connections

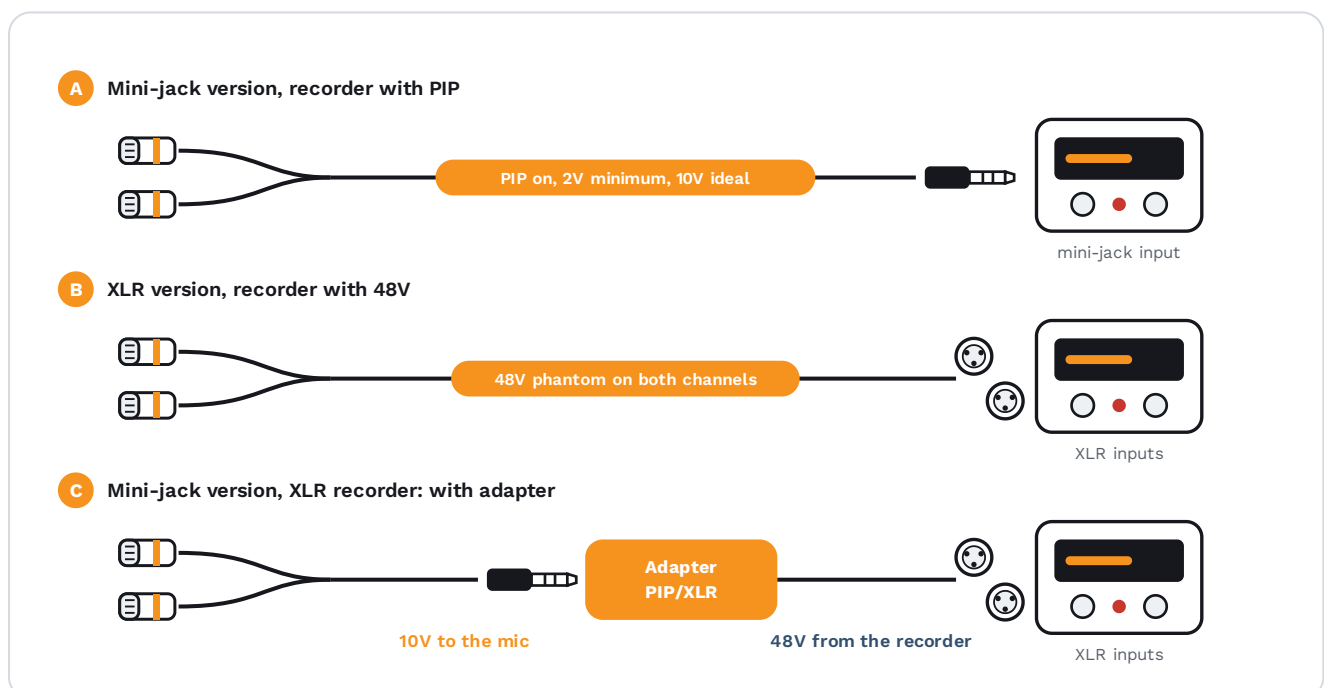


Fig. 4.2 Wiring diagrams. In C, plug in the adapter before switching on 48V.

Never feed 48V directly into a mini-jack version. 48V must only reach a PIP microphone through the PIP/XLR adapter or the dedicated Zoom F3/F6 adapter.

Which solution for which recorder

Your recorder	Solution	What to do
3.5 mm mini-jack input with PIP Zoom H1n, H5, Sony PCM-A10...	Mini-jack version, direct connection	Switch on plug-in power, choose the highest voltage offered, check that it reaches 2V.
XLR inputs with 48V Sound Devices MixPre, Zoom F3/F6...	XLR version	Switch on 48V phantom on both channels.
XLR inputs, mic already in mini-jack	PIP/XLR adapter	Plug in the adapter, then switch on 48V. The mic receives 10V.
Zoom F3 or F6, mini-jack mic	Dedicated F3/F6 PIP adapter	Compact, no dangling box. Plug into the XLR inputs, switch on 48V.

Decision tree

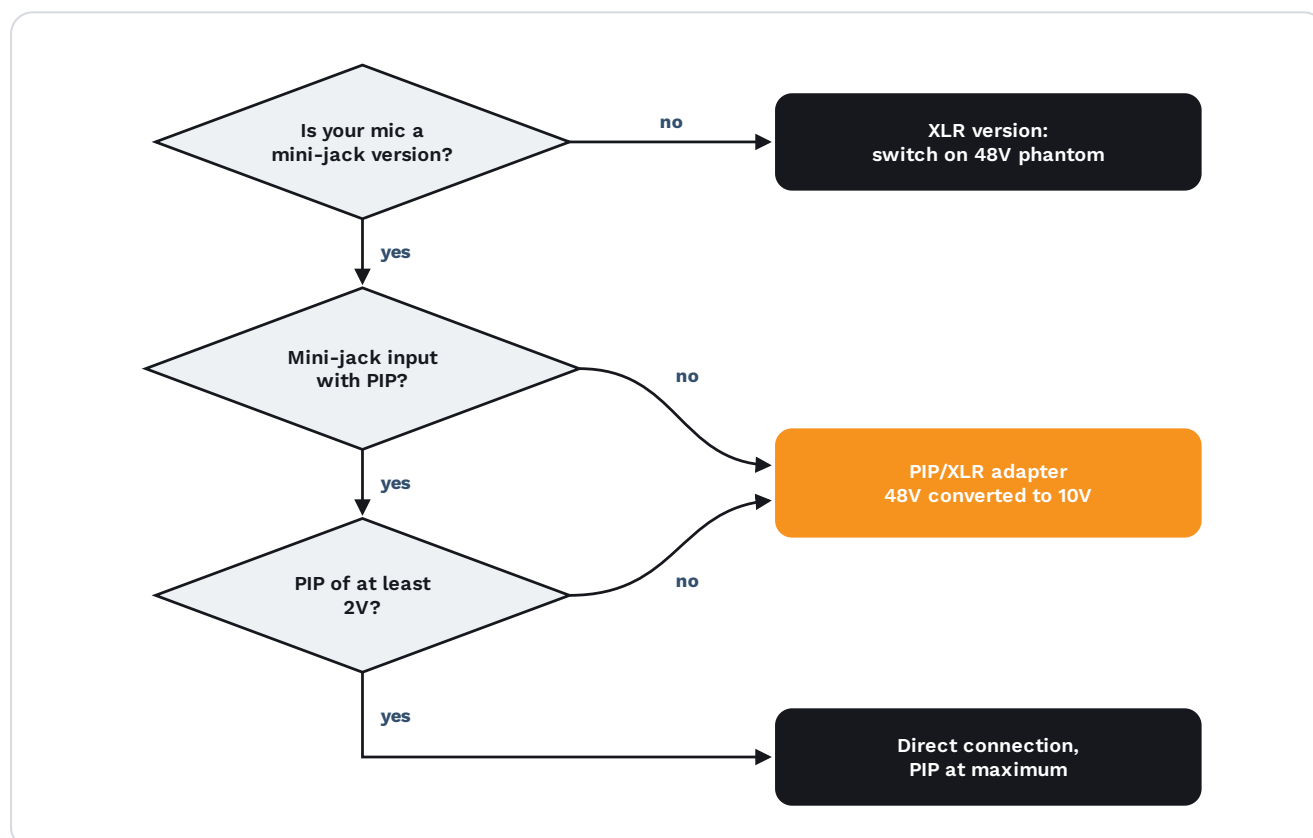


Fig. 4.3 Only a mini-jack input delivering at least 2V allows a direct connection.

48V only. The Professional, The One, the ORTF and the Thumb models run on 48V phantom via XLR only.

Voltage unknown? If your recorder's spec sheet does not state the PIP voltage, ask the manufacturer or write to the workshop before ordering.

The PIP/XLR adapter is built with Neutrik connectors, in standard or low-profile XLR. It also powers most PIP microphones from other brands.

5 Getting started

A first recording takes five steps: identify your microphone version, connect, power, place, then set the level on headphones.

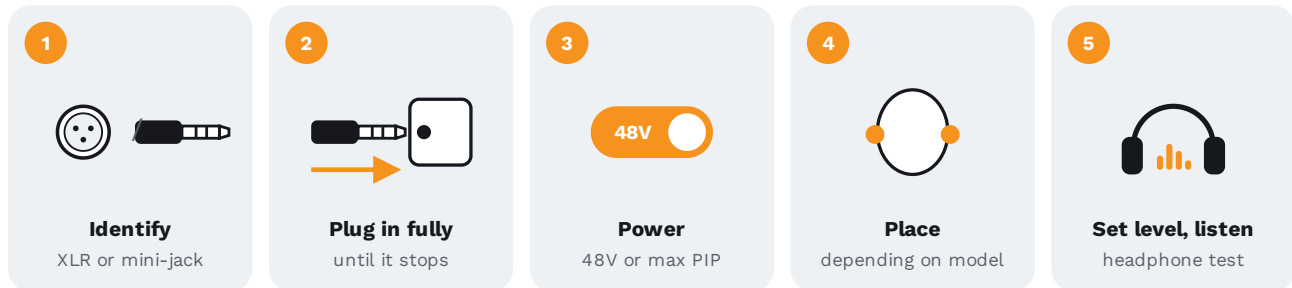


Fig. 5.1 The five steps of a first recording.

- 1 Identify your version.** XLR: 48V phantom power. 3.5 mm mini-jack: PIP power, 2V minimum (chapter 4).
- 2 Plug in fully.** Push every connector home until it stops. A partial contact is a classic cause of hum.
- 3 Power.** Switch on 48V on both channels for XLR, or plug-in power at the highest voltage for mini-jack. With a PIP/XLR adapter, plug in the adapter first, then switch on 48V.
- 4 Place the microphones** according to the model (next page).
- 5 Set the level and listen.** Make a test on headphones before the real take, and play it back.

Setting the level

32-bit float recorder (Zoom F3 for example):
level setting is no longer a source of stress.

24-bit recorder: keep some margin before
clipping on the loudest sounds of the scene.

Zoom F3: prefer batteries to USB. Its USB power input is not filtered and can add hum and noise.

Set-up by model

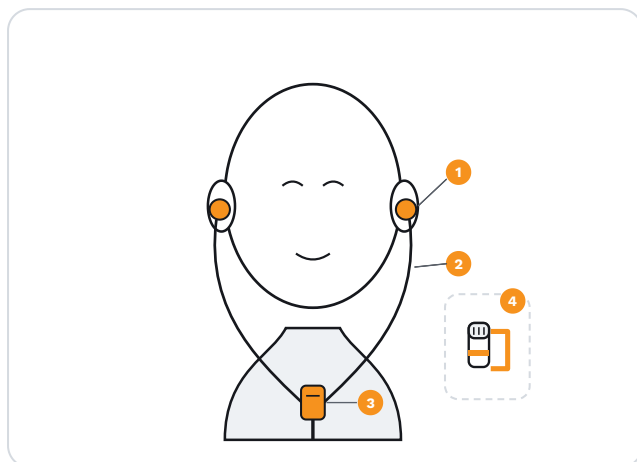


Fig. 5.2 Binaural worn like earphones.

- 1 **Capsule** at the entrance of the ear, grille facing outwards.
- 2 **Silicone earcup**: choose the size that holds without discomfort.
- 3 **Cable** to the recorder. The supplied clip lets you attach the cable to your clothing: you keep some slack to move freely, while limiting the vibrations transmitted along the cable.
- 4 **Optional clips**: they let you use the binaural pair as A/B microphones, just like the Standard V2.

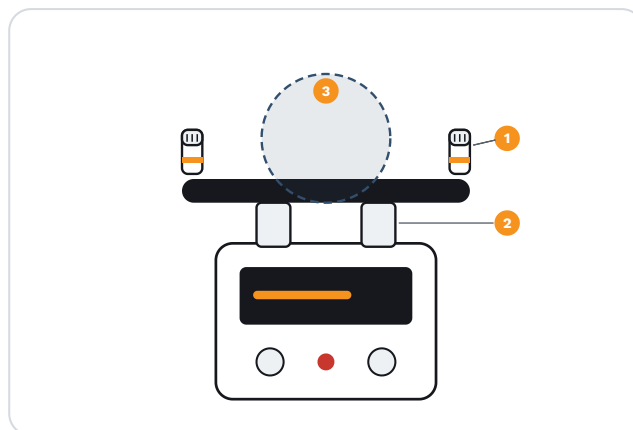


Fig. 5.3 The One mounted on the recorder.

- 1 **Omni capsules** at each end of the body.
- 2 **Direct mounting** on the XLR inputs, no cable or stand. 48V required.
- 3 **Jecklin disk** optional: widens the A/B stereo image.

Placing a free pair

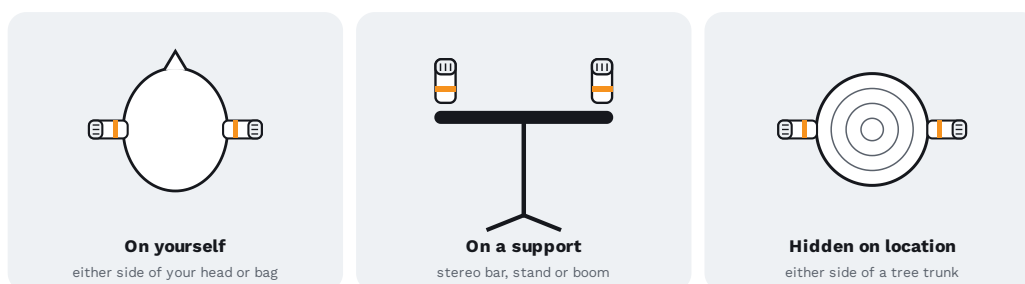


Fig. 5.4 Three common placements for an omni pair (Standard V2, Nano 2, Professional).

Model	Set-up
ORTF	Mounts directly onto the recorder. The 110° angle and 17 cm spacing are fixed by design.
Standard V2, Nano 2, Professional	Omni pair to place freely: on yourself, on a support or hidden on location.
Cardioid	Pair to mount in X/Y or ORTF, facing the source. The rear of the microphone is the rejection zone (chapter 9).

6 Accessories and wind protection

Outdoors, a windshield is essential: Comica windshields for everyday wind, Rycote Baby Ball Gag for exposed locations. All accessories are chosen or designed to fit the exact Earsight diameters.



Fig. 6.1 Level of protection according to wind exposure.

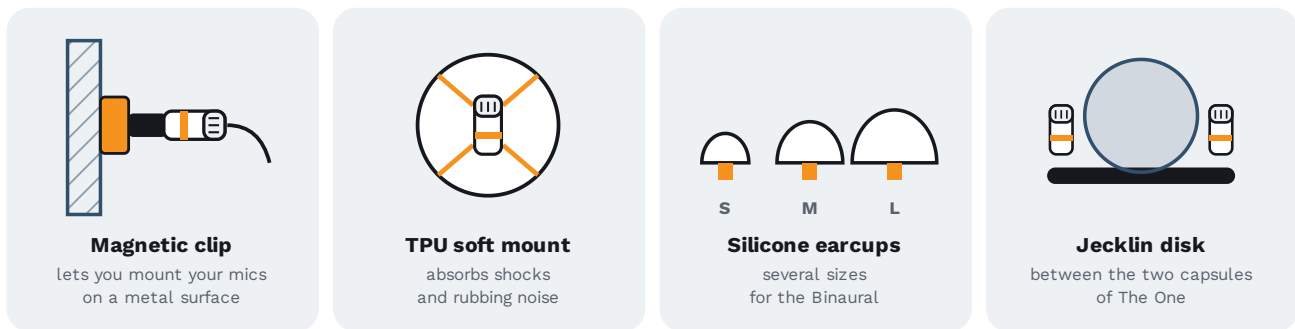


Fig. 6.2 Four accessories from the range, principle diagrams.

Windshields and 3D parts

Accessory	Purpose
Comica windshields	Everyday wind protection.
Rycote BBG	Stronger protection in exposed locations. The Thumb BBG models are designed for it.
3D adapters	Mount the capsules on your own supports; available as spares.

Cables and adapters

- PIP/XLR adapter and PIP adapter for Zoom F3/F6 (chapter 4)
- XLR5 stereo adapters: to XLR recorder, Nagra SEVEN, Sonosax SX-M2D2
- MidSide adapter in XLR5
- DPA 4060/61 Microdot to Sonosax SX-M2D2
- AES cable Sonosax M2D2 to Tascam DR100 mkIII
- ORTF mount for MKH8040 or CMC1U+MK4

Custom-made. A 3D part for your set-up: the workshop designs and prints them on request.

7 Care and precautions

The warranty excludes damage caused by misuse, negligence, lack of care, accidents and unauthorised modifications. A few simple habits are enough to avoid it.



Moisture

- ✓ After a damp session, let everything air-dry at room temperature before storing. A desiccant sachet in the case helps in the field.
- ✗ Blowing into the capsules, getting them wet, drying them with a hair dryer.



Cables

- ✓ Unplug by holding the connector. Coil in wide loops.
- ✗ Pulling on the cable, bending it sharply where it leaves the capsule or the connector.



Powering

- ✓ Switch off 48V or PIP before plugging and unplugging.
- ✗ Feeding 48V into a mini-jack version without a PIP/XLR adapter.



Windshields and earmuffs

- ✓ Remove wet windshields and dry them separately. Wash silicone earmuffs in soapy water, capsules removed.
- ✗ Refitting a windshield or earmuff that is still damp.



Shocks and heat

- ✓ Keep the pair in its case between sessions.
- ✗ Leaving the mics in a car in full sun, dropping them on a hard floor.



Modifications

- ✓ Ask the workshop for a different connector or cable length.
- ✗ Opening or re-soldering the mics: any unauthorised modification voids the warranty.

After every session

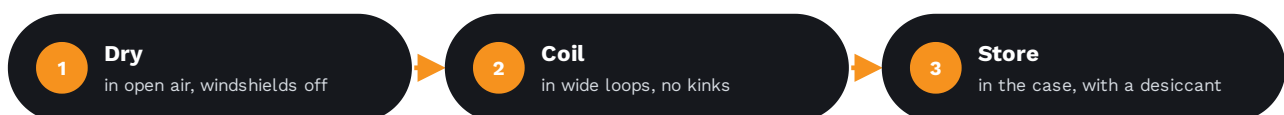


Fig. 7.1 The three-step storage routine.

Note. These rules are the usual precautions for miniature electret capsules.

8 Troubleshooting

Most apparent faults come from powering or from a connector that is not fully pushed in. Check these two points first.

Symptom	Likely cause	Solution
No sound, mini-jack version	Plug-in power switched off, or line input without PIP.	Switch on PIP on the mic input. If no PIP is available, use the PIP/XLR adapter.
No sound, XLR version	48V phantom switched off.	Switch on 48V on both channels.
Low level, squashed sound on loud sources	PIP voltage too low: under 2V, or 2 to 3V on a loud source.	Choose the maximum PIP voltage, use the PIP/XLR adapter (10V). For very high levels, move to the Professional.
One channel only	Connector partly inserted, or input set to mono.	Reconnect fully, set the input to stereo.
Wind noise, low rumble	Unprotected capsule.	Fit a Comica windshield, or a Rycote BBG in exposed locations.
Rubbing noises	Cable or mic touching clothing or a support.	Secure the cable with its clip, use a TPU soft mount.
XLR cable stuck on MixPre	MixPre XLR lock incompatible with some cables.	Known MixPre issue, not seen with Neutrik connectors.

No sound: three checks, in order

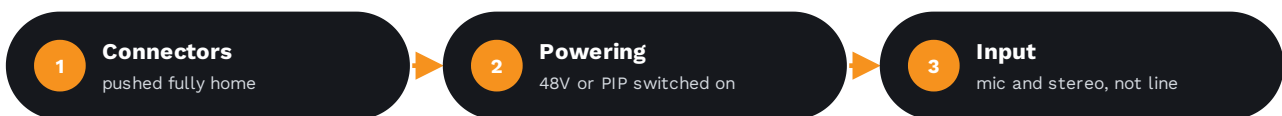
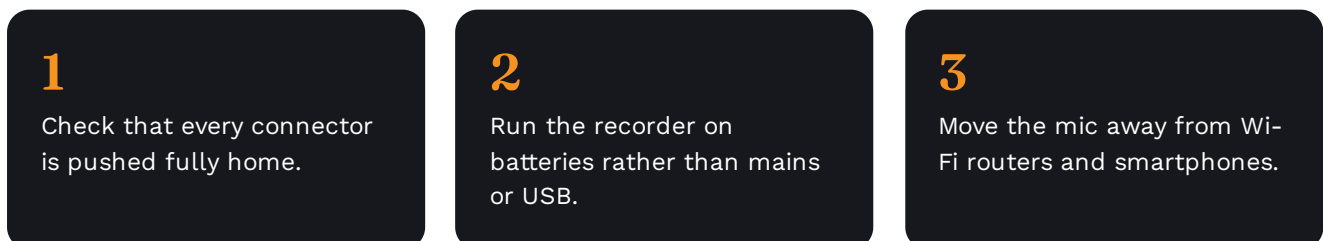


Fig. 8.1 Check these before concluding there is a fault.

Hum or buzz, a rare case: the three-step procedure



Still not solved? Write to the workshop stating the model, the version (XLR or mini-jack), the recorder used and, if possible, a short audio sample.

9 Recording techniques

Four stereo techniques cover the range. The choice depends on the intended playback, headphones or speakers, and on the need to frame the scene.

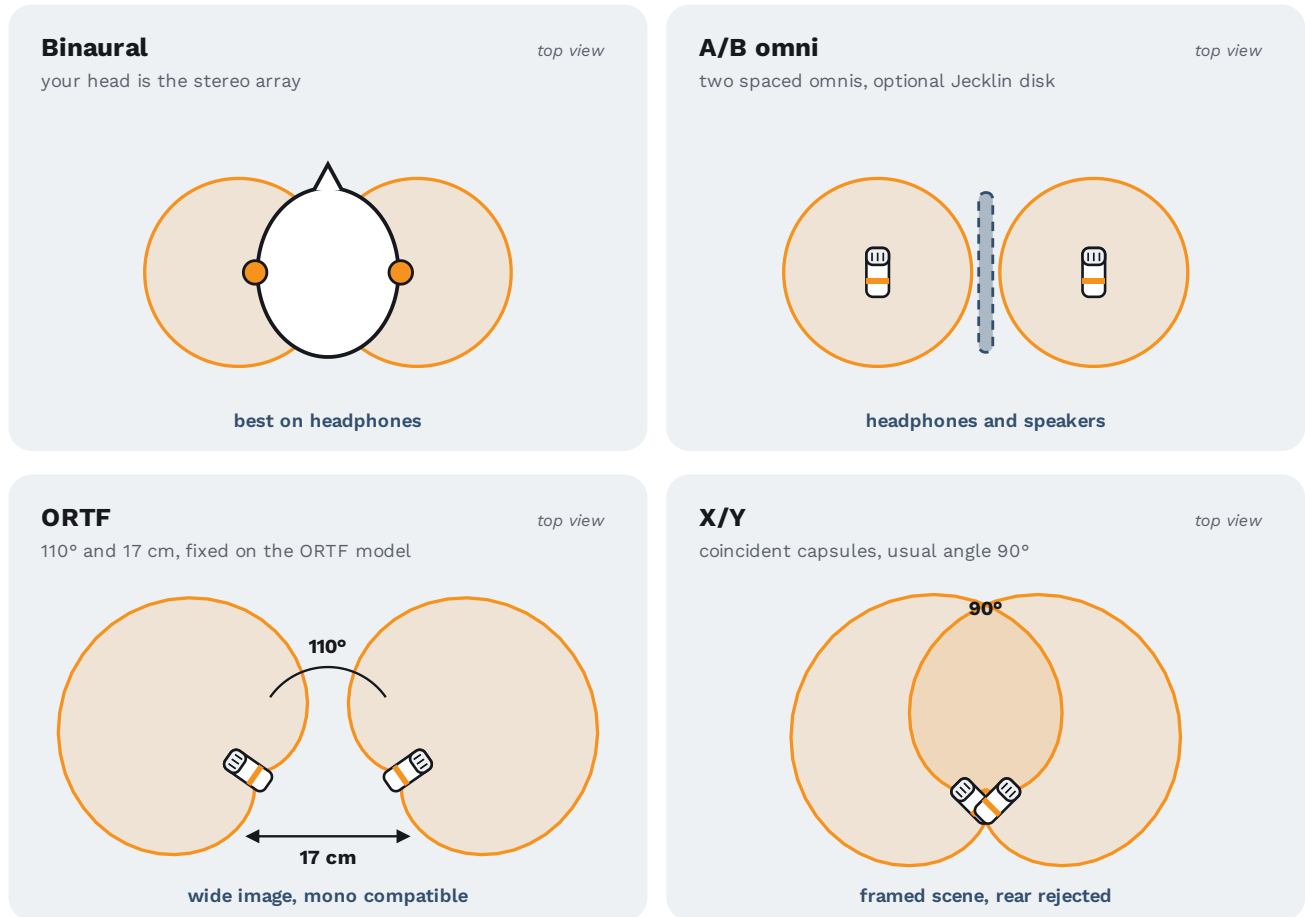


Fig. 9.1 The four techniques, seen from above. In orange: the area picked up by each capsule.

Technique	Models	What it brings	Headphones	Speakers	Mono
Binaural	Binaural	Sound captured just as you hear it, in 3D.	ideal	possible	avoid
A/B omni	Standard V2, Nano 2, Professional, The One, Thumb Omni	Open ambience, lowest self-noise.	very good	very good	check first
ORTF	ORTF, Cardioid, Thumb Cardio	Wide, natural image.	very good	ideal	very good
X/Y	Cardioid, Thumb Cardio	Framed scene, rear rejected.	good	very good	ideal

Playback columns are indicative, based on common stereo-pair practice.

In the field

Binaural recording

Move your head slowly and breathe gently: every movement ends up in the sound image. For a static ambience, stay still. For a soundwalk, walk at a steady pace.

Quiet ambiences

The 14 dBA models (Standard V2, Binaural, The One, Thumb Omni) are the best suited to silent places. Move away from the recorder and from noisy clothing, and let it roll for several minutes.

Loud sources

Concerts, machinery, storms, vehicles: use the Professional, the only model rated for 135 dB SPL. On mini-jack, a high PIP voltage increases the headroom of the other models.

Stealth recording and drop rigs

The Nano 2 hides almost anywhere; the Binaural passes for earphones. For a rig left on location for several hours, protect the capsules from wind and moisture.

Checklist before you leave

- ☐ Mics in their case, windshields suited to the weather
- ☐ Batteries charged, plus a spare set
- ☐ Closed-back headphones to monitor the take
- ☐ 48V or PIP checked with a 10-second test
- ☐ PIP/XLR adapter if the recorder only has XLR inputs
- ☐ Memory card emptied and formatted
- ☐ Clips, soft mount, desiccant sachet
- ☐ Input set to stereo, level tested on the loudest sound

Recording log

Date	Location, subject	Mic	Recorder, power	Windshield	File

10 Warranty, contact and returns

All Earsight microphones carry a 2-year worldwide warranty against hidden defects, component failures and manufacturing faults under normal use.



Fig. 10.1 Deadlines to remember after delivery.

Topic	Rule
Warranty	You return the microphone at your own expense. If the defect is covered: repair or replacement, and return shipping paid by the workshop.
Withdrawal	14 days after delivery, product in new condition in its original packaging. Write to the workshop first, then you have 14 days to ship. Return costs are yours, except for a confirmed defect. Refund within 14 days.
Shipping	2 to 4 business days for in-stock products, slightly longer for a specific build. Worldwide delivery, costs calculated at checkout. DHL or UPS express on request.
Parcel tracking	laposte.fr/outils/suivre-vos-envois or parcelsapp.com
Customs outside the EU	Import duties and taxes are the buyer's responsibility. Longer delays to the United States.
On delivery	Check the packaging. Damaged or opened parcel: refuse it, or write precise, dated and signed reservations on the carrier's delivery slip.

immersivesoundscapes@gmail.com

or the contact form on the website. Reply within a few business days.

Please avoid Instagram and Messenger: messages there are handled much more slowly.