GENERAL CARE & MAINTENANCE

As with all sensitive electrical equipment, your microphone should be treated with care and respect at all times. Here are a few sensible tips to help extend the life of your mic and keep it working at its best...

- When you're not using your microphone, always keep it in its protective flightcase, pouch or sleeve (if provided).
- Keep your microphone away from moisture, liquid, naked flame, direct heat or powerful light sources, and take care to avoid any knocks or bumps.
- Avoid transferring the microphone from cold to warm environments as this can lead to condensation forming inside the microphone, which will adversely affect its performance.
- When recording vocals, **ALWAYS** use a popshield to help prolong the life of the capsule or ribbon.
- Do not turn on phantom power before the mic is plugged in as this can lead to damage to the sensitive components inside the mic. When you've finished using your microphone, turn off the phantom power **BEFORE** disconnecting the mic.
- **DO NOT USE PHANTOM POWER with our valve mics** (Aria, Mercury, Helios, Omega) **or with our dynamic mics** (Halo, Corona, STC-80)**.**
- Where an external power supply is provided, **PLEASE ENSURE that the mains voltage selector is set to the CORRECT voltage for your location** (115/230V). Failure to do so could result in irreparable damage to the power supply and to your microphone (or to you!).
- Where a microphone is provided with a power supply or cables, use ONLY these products. Using any alternative products may cause damage and could result in electric shock or death.
- Use a soft cloth to clean your microphone after use (especially when recording vocals). Do not use any solvents or thinners as this will cause damage to the mic body. Avoid spraying any aerosols near the microphone.
- Under no circumstances should you attempt any servicing yourself as **this will invalidate the warranty and may result in danger to yourself and to the mic**. Contact us for help and advice!

IMPORTANT SAFETY PRECAUTIONS

- **NEVER expose the microphone, its cable or its power supply to water or to damp or wet conditions.**
- **If using a** SONTRONICS**-provided power supply, ALWAYS select the correct operating voltage for your location (115 or 230V) before switching on.**
- **NEVER attempt to open the power supply unit (where supplied) as this may lead to serious electric shock or worse.**
- **There are no user-serviceable parts to your** SONTRONICS **microphone, so DO NOT attempt to open or service your mic. All servicing requests must be referred to your local** SONTRONICS **stockist or distributor, or to us directly. (A full list of contacts and distributors can be found on our website: www.sontronics.com)**
- **If your microphone or power supply exhibits any unusual behaviour, noise, smoke or smell, STOP USING IT IMMEDIATELY, disconnect the equipment from any electrical supply and contact your local stockist or distributor, or contact us directly (see below). DO NOT attempt to investigate this yourself.**

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SONTRONICS®

SONTRONICS

british design • world class

SONTRONICS MICROPHONE USER GUIDE

We have provided this guide to help you fully understand your microphone and get the best from it. PLEASE READ THIS GUIDE carefully BEFORE using your microphone as it also contains important information for your safety.

For more information on all our microphones, preamplifiers and accessories, visit

www.sontronics.com

SONTRONICS **LIFETIME WARRANTY** ON ALL OUR MICS

Email us your serial number and date/place of purchase and we'll activate your Lifetime Warranty.
See full Terms & Conditions at www.sontronics.com/warranty.htm

Thank you for choosing our microphone and welcome to the SONTRONICS family! We hope you enjoy your new purchase. As **all our mics are protected by our Lifetime Warranty**, we invite you to take a moment to register your mic (details at www.sontronics.com/warranty.htm).

All our microphones are designed and developed here in the UK by SONTRONICS' founder and designer Trevor Coley. **We spend a long time passionately creating and crafting our microphones** and all new models are beta-tested with top artists, musicians and producers (including Paul Epworth, Flood and the engineers at Abbey Road Studios) before they go into production.

Each circuitboard is constructed using the highest quality electronic components **to ensure that your SONTRONICS microphone delivers you years of worry-free use.** The capsules in our condenser mics are diligently hand-made using gold-sputtered Mylar film no more than 6 microns thick (seven times thinner than a human hair). Each capsule is artificially pre-aged to ensure stability and to also give each microphone its specific characteristics.

Our ribbon microphones employ a microscopically thin aluminium ribbon and powerful rare-earth magnets to achieve **class-leading sensitivity and audio reproduction**. Our valve mics utilise hand-selected, European-made dual-triode vacuum tubes (12AX7/ECC83 in Aria and 12AT7/ECC81 in Mercury), chosen for their consistency in delivering a balanced frequency response without over-colouring the original signal. Mercury Vintage Edition uses a limited-stock vintage Mullard tube.

Once assembled, each microphone is put through several levels of Quality Control testing by our experienced engineers using specialist laboratory equipment to ensure it meets (and surpasses) a series of strict performance targets, and further tests are carried out in our soundproofed studio. All SONTRONICS microphones are also scrupulously checked and tested in our UK headquarters before they achieve our final approval.

You can be sure that by the time you read this, your microphone has been expertly put through its paces, stringently tested and lovingly cared for so that you can simply plug it in and start making professional quality recordings straight out of the box.

Understanding and using your microphone

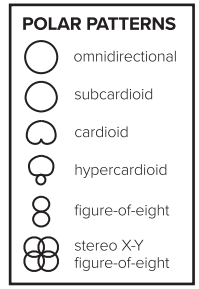
Most SONTRONICS microphones are condenser or 'capacitor' microphones with a single or double capsule inside the main grille. When sound pressure from an audio source reaches the capsule, the microscopically thin diaphragm on the surface moves, resulting in changes in electrical value or 'capacitance'. They are significantly more sensitive than other types of microphones and thus able to reproduce audio frequencies more accurately and consistently.

Our ribbon mics feature a thin strip of aluminium suspended between two magnets and when sound pressure reaches the ribbon, its movement within the magnetic field creates the signal. Ribbon mics have very specific frequency response, reproducing less high-frequency output and capturing fewer ambient frequencies ('less air'), leading to an authentic, natural result. SONTRONICS ribbon mics include a 48V-powered preamplifier circuit, **resulting in much higher sensitivity and making them more versatile and easier to use than traditional unpowered ribbon mics**.

SONTRONICS condenser mics benefit from our specifically designed capsule that delivers a very smooth high-frequency roll-off, allowing you to accurately capture your sound source (along with ambient sound) and produce a very natural recording with none of the high-frequency dithering or 'fizzing' in the digital domain that you often get from other condenser microphones.

All SONTRONICS condenser & ribbon microphones require 48V phantom power to operate. This is usually provided by an interface, soundcard or mixer, and it reaches the mic via an XLR cable. **Our valve microphones** (Aria, Mercury) **DO NOT require phantom power** as they have their own power unit that delivers a constant power supply to the microphone via a special multi-pin cable (included). **Our dynamic microphones** (Halo, Corona, STC-80) **do not require 48V either.**

Polar pattern characteristics



The polar pattern is the description of how a microphone picks up sound in the 360° space around it, usually shown in a 2D diagram (see right). The polar patterns most commonly found on our SONTRONICS mics are omni (omnidirectional), cardioid and figure-of-eight.

An **omni** pattern picks up sound equally from all directions (imagine it as a sphere around the head of the mic) and is useful for recording groups of musicians or singers, for orchestras and choirs and also for capturing the natural ambience of a recording space or room.

A **cardioid** pattern picks up sound in a wide space at the front and offers graduated rejection of sound from the sides and very little input from the rear. When shown as a 2D diagram, this pickup response looks heart-shaped, hence the term 'cardioid'. These microphones are also referred to as 'pressure-gradient' microphones and are useful for recording solo instruments (such as acoustic guitar, woodwind, brass), spoken or sung vocals, piano, drums, percussion and so on.

A **figure-of-eight** pattern picks up sound equally from the front of the microphone and from the rear, with complete rejection at the sides. A single figure-of-eight microphone can give a very intimate reproduction of sung vocals or acoustic instruments, and is also perfect for use in stereo recording applications where rejection of sound and noise from the off-axis positions is critical. It can also be used in combination with a cardioid mic for mid-side technique.

Hypercardioid is created by combining cardioid and figure-of-eight patterns. It offers good overall rejection and a flatter frequency response while having a lower sensitivity to sounds or reflections coming from the rear of the microphone. **Subcardioid**, sitting between omni and cardioid, reduces the level of proximity effect (see below) while maintaining excellent off-axis rejection.

The proximity effect

When a cardioid microphone is moved closer to its sound source (or vice versa) the bass response increases, and this is known as the 'proximity effect'. When recording vocals, a weaker-voiced singer can move nearer to the mic and **achieve a deeper, more intense sound**; it's also a classic technique for voiceover artists. If you are experiencing too much proximity effect but don't want to change the positioning, most SONTRONICS mics have a low-cut filter (see below) to compensate.

Filter and pad switches

As sound sources vary wildly in character, so will the methods by which they can be captured. In order to make our mics as versatile as possible and to help you get the best recording every time, some SONTRONICS mics feature filter and attenuation or 'pad' controls.

The **low-cut filter reduces the output of lower frequencies** captured by the microphone. As mentioned above, this is particularly useful when the proximity effect may not be desired or where low-frequency sounds such as vibrations or distant traffic rumble are being picked up. It is also very useful when your sound source exhibits little or no low frequency output. In this case, the filter can be switched in to add definition to your recording while limiting unwanted noise.

The **pad switch is used to attenuate (or reduce) the sensitivity of the microphone** by a number of decibels (usually -10 or -20dB). This is very useful when recording a loud sound source (for example, a trumpet played directly at the mic) which could overload the sensitive internal electronics and cause unpleasant distortion. In this case, the pad can be switched in to reduce the level of sound being captured by the microphone but allowing it to still pick up and reproduce the characteristics of the instrument.