JZ MICROPHONES

The Black Hole Series Microphones
Owner's Manual

www.jzmic.com

Safety Precautions

Detailed safety precautions:
Please read all safety precautions and operating instructions before attempting to operate the unit. Keep all safety precautions and operating instructions for future reference.

Water and moisture:
Condenser microphones are extremely moisture-sensitive. Never use your microphone in close proximity to water (e.g. bath tubs, wash basins, sinks, washing machines, pools, etc.).

Damage:
Take care not to drop your microphone as this can lead to severe damage. JZ Microphones assumes no liability for any damage caused by the user!

Service and care:
After each use, remove the microphone from its mount and wipe the microphone down with a soft cloth and place it back into its protective casing (included with the microphone).

Never open the microphone as it will void warranty!

Refer all servicing to qualified and manufacturer`s appointed personnel. Servicing is required when the microphone is damaged in any way, such as liquid has been spilled or objects have been fallen into the microphone, the microphone has been exposed to rain or moisture, microphone does not operate normally or has been dropped. Never remove grille covers in order to service microphone capsule. The capsule system does not contain any user serviceable parts.

Usage:
Only use attachments or accessories specified by the manufacturer. Check if packing contains all of the items listed. If any of these items are missing, contact your nearest JZ Microphones dealer or JZ Microphones directly.

Always turn down the levels (means no sound) of the microphone pre-amp or console while connecting or disconnecting the microphone to avoid possible damage to your speakers or headphones.

The Black Hole series microphones set up

1. Take the microphone out of the box.

2. Mount the shock-mount on the microphone stand. When it is done, take your BH microphone, squeeze the shock-mount so it`s both circular ends fits the two metal pins inside BH microphone and accurately apply the microphone on the shock-mount and ensure that microphone sits safe on the shock-mount

3. Included shock-mount gives you the opportunity to position and angle your microphone to the sound source in many various ways for desired results to be achieved (see pictures)

Tip: When using your BH series microphones on drum overheads you can apply included shock-mount from the front of the microphone.

BH1S packing includes:
1 x BH1S microphone
1 x Standard shockmount
1 x Thumb screw
1 x Warranty sheet

BH2 packing includes:
1 x BH2 microphone
1 x Standard shockmount
1 x Thumb screw
1 x Warranty sheet

The Black Hole series microphone models

The BH series includes 2 microphone models with different capsules, polar pattern and pad options:

BH1S
Large diaphragm condenser microphone GDC2 capsule
Class A discrete electronics
3 polar patterns: cardioid, figure of 8, omni -10 and -20dB PAD
5 year warranty

BH2
Large diaphragm condenser microphone GDC1 capsule
Class A discrete electronics
Fixed cardioid polar pattern
5 year warranty

All BH series microphones operate on 48 volt phantom power.

The Golden Drop Capsule (GDC)

The soul of each and every Black Hole Series microphone is the unique Golden Drop Capsule (GDC) technology, created by JZ Microphones' founder and lead designer Juris Zarins.

Using this innovative technology, the capsule's diaphragm is lighter; therefore, it moves and gets to its default position faster than the same capsule's diaphragm without Golden Drop technology. It gives more clarity, precision, fewer colorations and distortions in frequency response.

This method of capsule-making has been unique to JZ Microphones and since the beginning and will remain a closely guarded secret.

GDC technology also allows you to create a matched pair using any two of the Black Hole Series microphones that have already been crafted or will be produced in future.

Electronics

All JZ Microphones products use Class A discrete electronics, where all components are tested and measured for a maximum performance and grants to the audio signal cleanest path and extremely low self noise properties before any recording gear. All components are hand soldered by our engineers to avoid overheating of selected parts. While soldering the components, either it is done by un-experienced engineer or bad programmed machine, overheating can ruin specifications of very carefully selected electronic part.

BH series microphones are tube-less at this point, therefore electronic circuit is designed to work perfectly without tube as modern electronics is developed to manage the signal path without it.

BH series microphones are transformer-less, therefore electronics are designed to have maximum performance with minimum self noise without the transformer.

BH1s and BH3 series microphones comes with a PAD switch to have an option to lower the signal level from -5dB to -20dB depending on microphone model. Our PAD switch is applied to microphone electronics circuit right after the capsule which avoids to cut low and high frequencies destroying the signal quality, instead it just lovers the signal level allowing capsule to handle high SPL`s and keeping the signal unaffected.

Important is that in most cases the microphone can handle high signal level but the microphone preamplifiers can`t. That is why we care about your preamplifier and made a BH1s and BH3 microphones with pad option.

BH series microphones share basically the same electronic parts. Every BH series microphone except BH1s use component selection with tolerance 1.5 % in differences between them (only 35% of 1000 parts can pass 1.5% tolerance test) Components selected for BH1s have tolerance 0.4 % and are custom-made from those 1.5% parts therefore we are giving lifetime warranty for all BH1s microphones.

Electronic circuit design and component selection for every JZ Microphones product is done according to the capsule properties and its special needs to grant the best possible performance and extremely low self noise before any gear in the recording chain.

Technical Specifications

BH1S

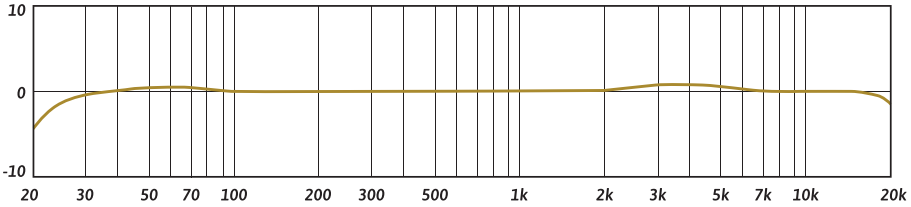
› **Transducer Type** *electrostatic*
› **Operating principle** *pressure gradient*
› **Polar Patterns** *Cardioid / Omni / Figure of 8*
› **Diaphragm's active diameter** *2 x 27 mm*
› **Frequency Response** *20 Hz - 20 kHz*
› **Pad Switch** *-10 / -20 dB*
› **Sensitivity at 1 kHz** *18 mV/Pa*
› **Output Impedance** *50Ω*
› **Rate Load Impedance** *>250Ω*
› **Maximum SPL** *134.5 dB SPL (2.5kΩ, 0.5% THD)*
› **S/N Ratio** *86.5 dB-A*
› **Noise Level** *7.5 dB-A*
› **Dynamic Range** *127 dB*
› **Power Requirement** *+ 48V DC Phantom Power*
› **Weight** *590 g*
› **Dimensions** *190mm x 48mm x 22mm*
› **Current consumption** *1.5 mA*
› **Output connector** *3-pin XLR male*

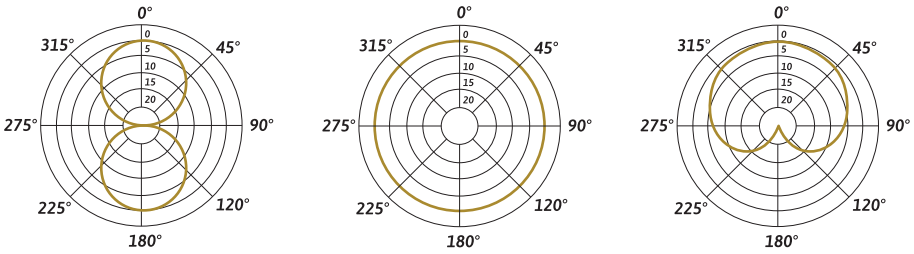
BH2

› **Transducer Type** *electrostatic*
› **Operating principle** *pressure gradient*
› **Polar Patterns** *Cardioid*
› **Diaphragm's active diameter** *27 mm*
› **Frequency Response** *20 Hz - 20 kHz*
› **Sensitivity at 1 kHz** *21 mV/Pa*
› **Output Impedance** *50Ω*
› **Rate Load Impedance** *>100Ω*
› **Maximum SPL** *134.5 dB SPL (2.5kΩ, 0.5% THD)*
› **S/N Ratio** *87.5 dB-A*
› **Noise Level** *6.5 dB-A*
› **Dynamic Range** *128dB*
› **Power Requirement** *+ 48V DC Phantom Power*
› **Weight** *590 g*
› **Dimensions** *190mm x 48mm x 22mm*
› **Current consumption** *1.5 mA*
› **Output connector** *3-pin XLR male*

Frequency response graphs

BH1S





BH2