MICROPHONES

# KM Series

## OPERATING MANUAL AND USER GUIDE

KM-1 KM-2 KM-3 KM-4 KM-5





Wharfedale Pro

www.wharfedalepro.com



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# IMPORTANT WARNINGS & SAFETY INSTRUCTIONS

1. READ ALL INSTRUCTIONS carefully and become familiar with the features and functions of these products before operating them.

2. RETAIN THESE INSTRUCTIONS for future reference.

3. COMPLY WITH ALL WARNINGS – All warnings and instructions for this product should be adhered to.

4. USE WITH MIXERS & AMPLIFIERS – In order to avoid damage to drivers and other equipment, it is advisable to establish and follow a routine for powering up and powering down a sound system. With all system components connected, turn on source equipment (mixers, signal processors, record and playback units, etc.) BEFORE powering up amplifiers. Transient voltages from powering up source equipment can damage speakers (HF Drivers) if amplifiers are already turned on. Make sure that amplifier volumes are set to their minimum settings and power up any system amplifiers LAST. It is recommended that all system components be allowed to stabilize for several seconds before any source signals are introduced or level setting adjustments are made. Similarly, when shutting systems down, turn all amplifiers off first, before powering down any other system components.

5. CABLES – Always use shielded or microphone cables for connection between source equipment (i.e. microphones, mixers, EQ, crossovers) and amplifiers. Use only approved speaker cables with proper connectors between amplifiers and speakers.

6. CAUTION – Professional sound systems are capable of generating very high sound pressure levels. Use care with placement and operation to avoid exposure to excessive volume levels. Permanent hearing damage can result when operated to extreme levels.

7. SERVICE – There are no user serviceable parts inside this product. Users should not attempt to service this product. Warranty nullification could result if this is attempted.

# INTRODUCTION : KM SERIES

The KM Series Microphones are hand held dynamic (KM-1, KM-2, KM-4 & KM-5) super-cardioid & condenser (KM-3) cardioid microphones featuring super-cardioid & cardioid patterns to minimize feedback and to reject signals not originating in front of the microphone. The microphones have extended frequency response for optimum reproduction. They are designed to provide exceptionally clear, articulate sound. A shock mounting system isolates the microphone element from external forces to greatly reduce handling noise. The well-balanced zinc-alloy die cast body ensures reliable performance in even the most demanding applications. Designed for high SPL use, the KM Series Microphones are ideal for mic'ing drums or other purcussion instruments, but fit into a wide range of applications. The high sensitivity capsule picks up all of the nuances of a performance. The lightweight neodymium magnet provides 6dB of additional sensitivity/gain compared to other magnetic materials.

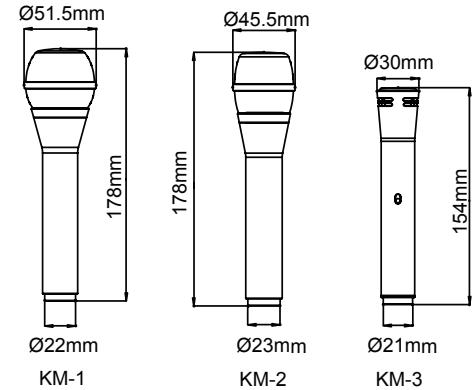
A microphone must have very low distortion at intended sound pressure levels. Distortion has a profound effect on the way we hear the material being auditioned. Our ears can be fooled by harmonics and undertones that are a product of distortion (Distortion, by a simple definition is the difference between the input sound and the sound coming out of the speakers). Another important

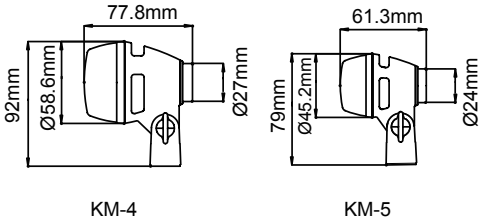
factor is the microphone's ability to work within an extreme dynamic range. Many microphones that may sound acceptable with a low sound pressure, have problems with high sound pressure.

# FEATURES

- High quality professional drum microphones
- High tech zinc finish
- 5 models to choose the best tool for the job(KM-4 & KM-5: easily mounted on drums)
- Unidirectional dynamic microphones with exceptional feedback rejection
- Neodymium magnet for high output low distortion
- Dent-resistant spring-steel grill
- Rugged cast Zinc alloy body
- On/off switch
- Gold-plated XLR connector

## Line Drawings of the KM Series



# MICROPHONE USE/ PLACEMENT

When mic'ing, the position of the instrument microphones is not trivial. If the microphone does not have a smooth polar pattern, it is difficult to mic vocals, instruments or instrument amplifiers.

The uniform dispersion of the KM SERIES makes it easy to place the microphones where you need them. For best results use the included stand and mounting adapters to place the microphone on the 0 degree axis (i.e. point it directly at the source). The dynamic microphones exhibit increased low frequency response when placed close to the source. When using KM1 or KM2 or other dynamic vocal mics for vocals, instruct the user to get close to the windscreen. If you speak into the mic more that a few centimeters (inches) away, the sound will be thin and "tinny"; no bass. Using the mic "off-axis" (not dead center to the source) will likely result in a "tinny" sound. The microphones are most sensitive "on-axis".

Condenser microphones do not exhibit this feature. You may place a condenser mic farther away from the source and still maintain good full range frequency response.This makes them especinlly well suited to drum over head applications. Using the mounting brackets, you can place the KM-4 & KM-5 mics on drums and other instruments easily and with flexibility. Try to place them so they will not get

struck by wild drummers as this can result in a very loud "crack" through the PA! The KM-3 is a great over head Mic and the KM-1 & KM-2 are your all purpose mics. You can use them for vocals, acoustic instruments (winds, brass, strings,etc.) and drums.

Next adjust the MIC trim output so that the meters are at the '0' (zero) position most of the time, or at the loudest part of your performance. This takes time and practice to get the best sound.

## CONNECTIONS / WIRING

Connecting the KM Series to your system is easy. You simply plug in the microphone cable to your mic and then to the mixer. Always use good quality microphone (2 conductor + shield) cable. After you plug in the mic, you must adjust the sound level to produce the best sound. A good place to start is the the first channel of your mixer, or the section the drums mics plug into. Its a good idea to group like instruments to allow easy gain adjustments.

Plug the mic in and position the volume control at '0' (zero) dB. Keep the main output volume down as well as the amplifiers' volume control. Whilst watching the meters, speak, play the instrument, beat the drums in the same sequence you have plugged them into the board or sing (it's always good to warm up your voice) into the mic at the same level of your performance and adjust the GAIN control, usually at

the top of the mixer channel near the mic input jack, to the point where the meters spend a lot of time at or near the '0dB' (zero). An occasional red peak light is OK, just make sure the meters are not in the red area very long.

Mic'ing drums is not as easy as it sounds, however it is straight forward. The drums can be loud and the sound of a (snare) drum may also be picked up by the tom-toms, the overhead mic or the kick drum mic. Start by playing each drum until you have arrived at a good gain level (watching the meters) for each one. When that is finished, play the entire kit to make sure the TOTAL sound coming from the drums is not clipping the inputs and is a good mix of each drum in the kit. You can then adjust the channel FADER to "mix" the drum kit. If the mixer has GROUP send buttons (see SR806 Manual), you can assign the drum kit to a group. That allows you to control the drum kit sound with one fader and you don't have to re-mix the drums every time you make a slight volume change.

Also keep in mind that the EQ section should be set at the '0' or 12 o'clock position when you start mixing the drums or other instruments. You may find that when the full kit is being played, one or more drums might not be as loud as another. Often a slight adjustment of one of the EQ settings will help the sound cut through and mix better into. The goal is that every instrument has its turn to shine, without overpowering the others.

# SPECIFICATIONS

| | KM-1 | KM-2 | KM-3 | KM-4 | KM-5 |
|---|---|---|---|---|---|
| **Transducer Type** | Dynamic | Dynamic | Condenser | Dynamic | Dynamic |
| **Polar Pattern** | Super-cardioid | Super-cardioid | Cardioid | Super-cardioid | Super-cardioid |
| **Frequency Response** | 40-16,000Hz | 50-18,000Hz | 30-20,000Hz | 30-12,000Hz | 50-16,000Hz |
| **Load Impedance** | 600 Ohms | 250 Ohms | <1000 Ohms | 250 Ohms | 250 Ohms |
| **Sensitivity (@ 1000Hz)** | -51 dBV/Pa | -53 dBV/Pa | -46 dBV/Pa | -54 dBV/Pa | -54 dBV/Pa |
| **Off Axis Rejection** | >20dB | >25dB | >18dB | >20dB | >22dB |
| **Maximum SPL** | >135dB | >135dB | >120dB | >135dB | >130dB |
| **S/N Ratio** | | | more than 70dB | | |
| **Current Consumption** | | | 4.6mA | | |
| **Power Supply** | | | 11-52V phantom power | | |
| **Connector** | 3 pin gold plated male XLR | 3 pin gold plated male XLR | 3 pin gold plated male XLR | 3 pin gold plated male XLR | 3 pin gold plated male XLR |
| **Polarity** | Positive voltage on pin 2 relative to pin 3 of output connector | Positive voltage on pin 2 relative to pin 3 of output connector | Positive voltage on pin 2 relative to pin 3 of output connector | Positive voltage on pin 2 relative to pin 3 of output connector | Positive voltage on pin 2 relative to pin 3 of output connector |
| **Housing** | Zinc Alloy | Zinc Alloy | Zinc Alloy | Zinc Alloy | Zinc Alloy |
| **Dimensions** | Ø51.5x178x Ø22 | Ø45.5x178x Ø23 | Ø30x154x Ø21 | Ø58.6x77.8x Ø27 | Ø45.2x61.3x Ø24 |
| **Weight** | 180g (6.3oz) | 160g (5.6oz) | 120g (4.2oz) | 240g (8.5oz) | 170g (6.0oz) |

## WHARFEDALE LIMITED WARRANTY

**Wharfedale KM Series Microphones are warranted of manufacturing or material defects for a period of one year from the original date of purchase. In the event of malfunction, contact your authorized Wharfedale dealer or distributor for information.**

***Be aware that warranty details may differ from country to country. Contact your dealers or distributor for information. These terms do not infringe your statutory rights.**




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