



DEVINE

BM-600

Professional studio recording microphone



User manual

Any information and illustrations shown in this user manual are subject to change without further notice.

User manual version: 1.0 Creation date + author initials: 27-03-2014 RV Revision date + author initials: 27-03-2014 RV

Introduction

Thank you for purchasing this Devine BM-600 broadcasting and recording microphone. Before you unpack all the received items, carefully read this manual to become familiar with the functions of the microphone. Also check the contents of the box to make sure all necessary parts are included. If the microphone fails to operate properly, or if you have any problems while using it, disconnect it and contact your local dealer for more information and help.



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Box contents

Box contents:

- 1x Devine BM-600 microphone
- 1x windscreen
- 1x shock mount
- 1x storage/transport case with foam inlay

Unit and accessory inspection

- If the unit is not going to be used for a longer period of time, disconnect it and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.

Note: Illustrations shown in this manual may vary from the actual product.



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Use of the microphone

The Devine BM-600 studio microphone is suitable for most recording applications in your studio. Thanks to multiple selectable polar patterns, there is a suitable pattern for almost every application.

The Devine BM-600 has three user selectable polar patterns:

Unidirectional (cardioid):

The most used polar pattern for most vocal and instrument recording applications. The most sound is recorded at the front of the microphone, while reducing pickup of sound at the sides and the rear. This is the best choice when you use (studio)monitors directly behind the microphone and prevents feedback.

Bidirectional (figure eight):

This polar pattern carries the 'figure eight' name because of the shape of the polar pattern. This pattern causes the microphone to record the most sound directly at the front and the rear of the microphone, with hardly any sound from the sides.

Omnidirectional:

This pattern is mostly used when you want to record sound in a 360 degrees setting. This pattern captures almost every sound in its direct environment, which exterminates the need of aiming the microphone in the right position. A negative consequence of this pattern could be that it is difficult to keep the microphone away from audio sources that may cause feedback, such as (studio) monitors.

To select the right polar pattern for your application, experiment with several settings to see which pattern gives the best results.

IMPORTANT: Phantom power

This large-diaphragm studio condenser microphone requires +48V phantom power from a PA-mixer, studio-mixer, audio-interface or phantom power supply. Consult the manual of your equipment or contact your local dealer when in doubt if your equipment is capable of providing a +48V voltage.

This microphone will not work properly when there is no proper +48V voltage activated. Always check this if you suspect that your microphone might be damaged or broken.

Protect your microphone:

This Devine microphone is equipped with very sensitive electronics to provide optimal audio performance. Make sure the microphone is not exposed to severe shocks, collision, drops from high altitude or any situations that may cause permanent damage. Improper use of the microphone is not covered by warranty. Always transport the microphone in the original package, or in a flightcase with proper foam inlay. The microphone is not intended for on-the-road use.

Positioning and using the included accessories:

The BM-600 includes a shock mount and windscreen for optimal audio performance. Devine recommends to always use the included shock mount, to prevent audio distortion and background or handling noise. The included windscreen is optional and is mostly used when recording outdoor.

Connect your microphone to a mixer or audio interface:

This microphone uses a 3-pin XLR connector for connection with your mixer or audio-interface (cable not included). It is recommended to check the settings on your audio equipment before connecting the microphone. Check your equipment for the following settings:

Mixer/Audio interface:

- Gain set to the 0-point (in the most final counter-clockwise position)
- Compression/lowcut settings positioned in the off or most neutral position
- EQ settings on the most neutral position

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- Pan/Balance settings on the most neutral position
- Volume fader or potentiometer set to the lowest possible position
- Phantom power in the 'on' position (mostly a button per channel, or a group of channels)

Microphone:

- Steady positioning on a microphone stand, with the included microphone clip
- Select the polar pattern which you want to use
- Turn off functions such as the -10 dB pad and low-cut filter
- Make sure the audio source (vocalist or instrument) is positioned as close as possible to the microphone

After you checked the settings above, you may start recording the audio source. Placing the audio source as near to the microphone as possible, provides the best audio quality and grants you the ability to reduce overall gain settings, which prevents audio feedback and noise.

Put the volume parameter (potentiometer or fader) on the '0 dB' position for the best audio performance and slowly increase the gain, until slight clipping (mostly indicated with a (LED) VU meter or LED) or distortion is noticed.

Low cut

When recording vocals or instruments, it is possible to use the low-cut filter to reduce low frequency capture of the microphone diaphragm, which prevents low-frequency rumble and/or turbulence. This may have slight influence on the sound characteristics of the microphone, as low frequencies will be decreased

-10 dB pad

When recording loud audio sources, such as trumpets or drums, high SPL (sound pressure levels) may cause distortion, as the maximum SPL of the microphone is 130 dB SPL. To increase the maximum SPL level of the microphone, it is possible to activate the -10 dB pad, to decrease the microphone sensitivity slightly, thus creating a maximum SPL of 140 dB, which in most cases is enough to capture loud audio sources with optimal quality.

Placement on a microphone stand or boom arm

The shockmount of the BM-500 microphone is equipped with a 5/8" thread, suitable for most microphone stands. If your microphone stand has 3/8" thread, adapters can be purchased separately. For easy positioning, mount the shockmount with the thread mount before mounting the microphone.

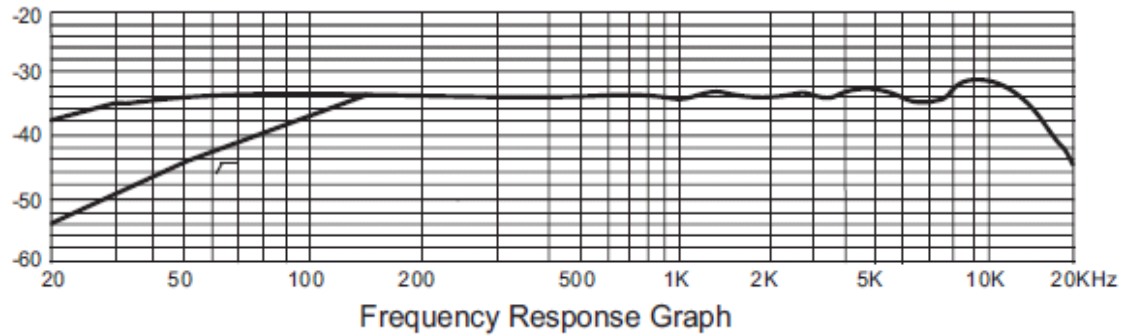
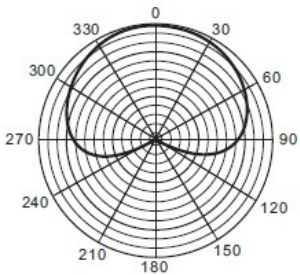
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Polar pattern and frequency response

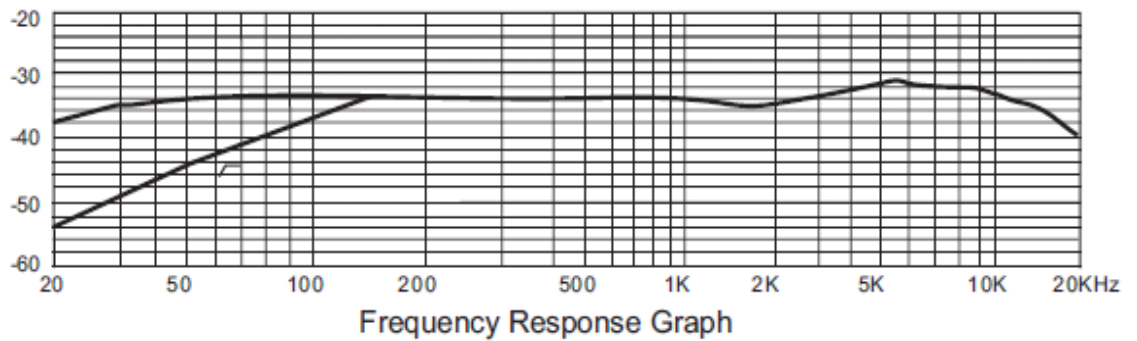
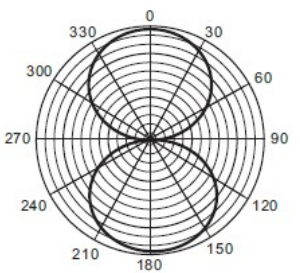
The Devine BM-600 has three selectable polar pattern settings, each with its own characteristics.

Below you will find the polar pattern and frequency response graph for each selectable pattern. Please note that the several pattern graphics are based on a measured frequency of 1 kHz. The frequency response graph is measured from 20 Hz to 20 kHz.

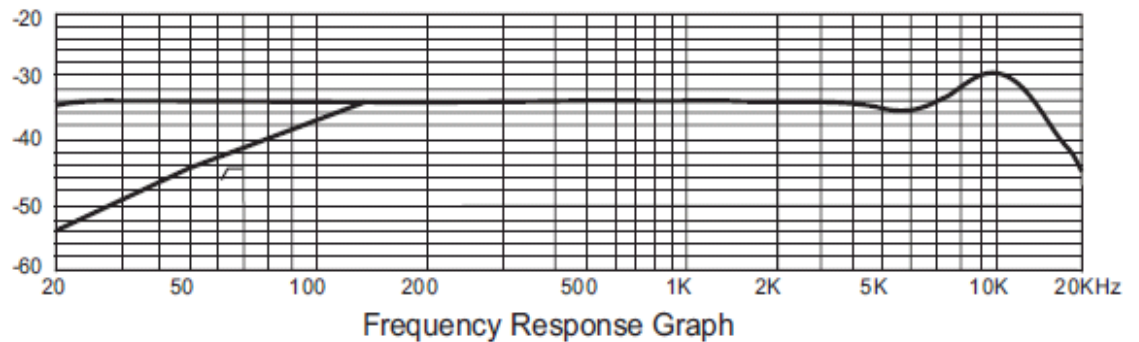
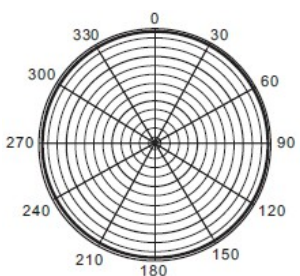
Uni-directional - cardioid (measured at 1 kHz):



Bi-directional – figure eight (measured at 1 kHz)



Omnidirectional (measured at 1 kHz)



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Troubleshooting

Problem	Possible Cause	Solution
No sound, or very low sound signal	No phantom power Volume set too low	Connect or activate phantom power supply Increase incoming volume and gain on your mixer, interface or other sound processing device
Rattling and cracking sounds	Microphone positioned too far away Moist inside the microphone	Place the microphone closer to the sound source Let the microphone dry on room temperature and avoid use of the microphone in humid or moist environments. Do not let the microphone come in contact with water or liquids.
Loud high frequencies coming from the speakers	Microphone positioned too close to the speakers, which causes feedback	Move the microphone further away from the speakers, or change the position to prevent the microphone to be aimed directly at the speakers.
Interruption of the microphone signal	Loose cable or broken cable	Check if the cable is plugged into the microphone correctly. If that does not solve the problem, try to change the cable.
Distortion and/or noise in the captured sound	Too much airflow caused by vocal airflows Too much airflow caused by wind (outdoor use)	Use a pop filter (sold separately) Use the windscreen (included)

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Technical specifications

- condenser studio microphone
- pressure gradient transducer
- gold-plated 34 mm diaphragm
- gold-plated XLR connector
- suitable for vocal and instrument recording
- -10 dB pad, for clear capture of loud sources, such as drums
- high-pass filter, to eliminate low frequency rumble and turbulence

3 selectable pick-up patterns

- cardioid
- figure-eight
- omnidirectional

Polar pattern: cardioid

- frequency response: 20 Hz – 20 kHz
- sensitivity: -31 dB (+/- 2 dB) at 0 dB=1V/Pa at 1 kHz
- output impedance: 150 Ohms (+/- 30%) at 1 kHz
- load impedance: 1000 Ohms
- self noise: 14 dB (A-weighted)
- maximum SPL: 130 dB (at 1 kHz, < 1% T.H.D.)
- signal/noise ratio: 80 dB
- +48V phantom power required
- electrical current: 3 mA
- -10 dB pad (increases the max. input SPL from 130 to 140 dB)

Polar pattern: figure-eight

- frequency response: 20 Hz – 20 kHz
- sensitivity: -34 dB (+/- 2 dB) at 0 dB=1V/Pa at 1 kHz
- output impedance: 200 Ohms (+/- 30%) at 1 kHz
- load impedance: 1000 Ohms
- self noise: 15 dB (A-weighted)
- maximum SPL: 130 dB (at 1 kHz, < 1% T.H.D.)
- signal/noise ratio: 79 dB
- +48V phantom power required
- electrical current: 3 mA
- -10 dB pad (increases the max. input SPL from 130 to 140 dB)

Polar pattern: omni-directional

- frequency response: 20 Hz – 20 kHz
- sensitivity: -35 dB (+/- 2 dB) at 0 dB=1V/Pa at 1 kHz
- output impedance: 200 Ohms (+/- 30%) at 1 kHz
- load impedance: 1000 Ohms
- self noise: 16 dB (A-weighted)
- maximum SPL: 130 dB (at 1 kHz, < 1% T.H.D.)
- signal/noise ratio: 78 dB
- +48V phantom power required
- electrical current: 3 mA
- -10 dB pad (increases the max. input SPL from 130 to 140 dB)

Included shock mount

- shock mount reduces unwanted noise
- padded microphone holder, prevents scratches
- angle adjustable
- 5/8" thread

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Included windscreen

- suitable for outdoor environments
- prevents wind noise

Included storage and transport case

- foam padded interior
- protects against shocks, collision, scratches



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