



PEARL ELM-T

Bernt Malmqvist Signature Edition

Bernt Malmqvist

USER MANUAL



Milab
www.milabmic.com

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2. Introduction

Founded in 1941, Pearl Microphones is one of the oldest, continuously operating microphone manufacturers in the world.

Every Pearl microphone is handcrafted in our plant in southern Sweden. Our quality control is meticulous, and all microphones must pass several stages of testing, including rigorous audio tests in our anechoic chamber.

We believe in our products, which is why every microphone is delivered with its own individual frequency chart and our industry-leading lifetime warranty.

Since 2017, Pearl Microphones is a trademark of Milab Microphones AB.

Congratulations on your purchase and welcome to the Pearl & Milab family!

Thomas Nöjdh, President
Milab Microphones AB

3. Package includes

- **ELM-T Tube Microphone**
- **Power Supply Unit AGES NG by Andreas Grosser**
- **Rycote USM shock mount**
- **Power cable**
- **Microphone cable (10 m)**
- **Protective slipcover**
- **User manual card**
- **Individual test chart**
- **Signed letter from Mr. Bernt Malmqvist**

4. Pearl ELM-T Microphone

The **Pearl ELM-T Bernt Malmqvist Signature Edition** is a high-end vacuum-tube microphone, built entirely by hand in Sweden. The heart of the microphone is the Pearl ELM rectangular condenser capsule with a height-to-width ratio of 7:1. The ELM-T has been meticulously designed by Mr. Bernt Malmqvist who has been a part of Pearl Microphones since 1954.

The capsule and the vacuum tube are delicate components, and the microphone should be handled with care. Exposure to liquids, humidity, power surges, extreme temperatures, or external force (etcetera) may affect the performance of the microphone or in worst case cause permanent damage.

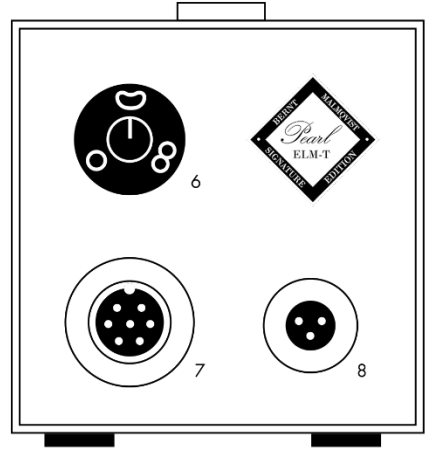
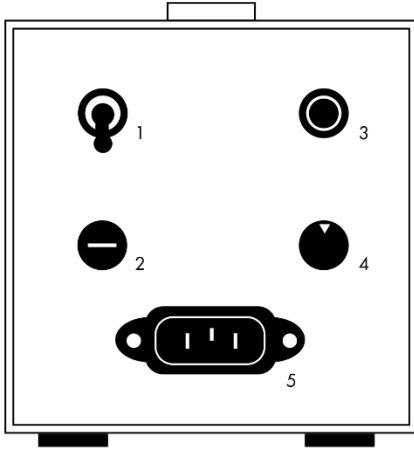
The ELM-T is not intended to be used as a handheld device and should always be used with the enclosed shock mount. Make sure that the microphone is fitted firmly so that it does not fall out of the shock mount.

The microphone is side-addressed and in a directional mode such as cardioid, the side with the Pearl badge should be aimed at the sound source.

For close-up vocals, we recommend the use of an external pop filter to protect the microphone capsule and to reduce pops and plosives.

5. AGES NG Power Supply Unit (PSU)

The AGES NG power supply unit is manufactured specifically for the Pearl ELM-T by Andreas Grosser Mikrofontechnik in Berlin, Germany.



1: Power switch

2: Fuse

AC 230 V SI 100 mA MT

AC 115 V SI 200 mA MT

3: Control lamp

4: Voltage selector (115/230 V)

5: Power inlet

6: Polar pattern selector

7: 7-pin XLR (to microphone)

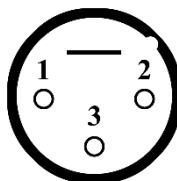
8: 3-pin XLR (to preamp)

3-pin XLR pinout

1: Ground (shield)

2: Hot (+ phase)

3: Cold (- phase)



6. Connecting and operating instructions

Your specific microphone, power supply unit (PSU) and microphone cable have been optimised and matched by our engineers and should be regarded as **one operational unit**. This means that your ELM-T microphone should only be used with the PSU and cable that it was delivered with.

Connecting the microphone and PSU

Step 1: Connect the microphone cable to the connector at the bottom of the microphone.

Step 2: Connect the microphone cable to the 7-pin connector on the PSU. Make sure that the locking mechanism is firmly screwed tight.

Step 3: Connect the 3-pin XLR output on the PSU to a microphone input on your mixer or preamp, using a balanced XLR cable. Ensure that the input channel is muted before connecting the XLR cable.

⚠ IMPORTANT! Make sure that the microphone is connected to the PSU before the power is switched on.

Connecting the PSU to power

Step 1: Ensure that the voltage setting on the PSU corresponds to the voltage of the power grid.

Step 2: Check that the power switch on the PSU is set to “off”.

Step 3: Connect the PSU to a **grounded power outlet** using the enclosed power cable.

Step 4: Set the power switch on the PSU to “on”.

If everything has been connected correctly, the microphone will power up and start to function within ca 30-60 seconds after power has been switched on. Please note that the vacuum-tube circuitry needs time to warm up. Therefore, it is highly recommended to **leave the power on for at least 10 minutes before using the microphone**.

⚠ IMPORTANT! The PSU offers two different voltage settings, 115 V and 230 V. **Always make sure that the voltage setting corresponds to the voltage of the power grid. Using the wrong setting may result in damage to the equipment.**

Changing the polar pattern

The Pearl ELM-T offers a range of polar patterns (cardioid, omni, bidirectional and intermediate positions) via a selector on the power supply unit (see page 5). When using a directional pattern (like cardioid) the side of the microphone with the Pearl badge should be aimed at the sound source.

⚠ IMPORTANT! A tube microphone is a delicate instrument which must be handled with care. The Pearl ELM-T system should only be used indoors and not be exposed to humidity or temperatures above normal conditions.

7. Cleaning and storing

Disconnect the power cable from the power supply unit before cleaning.

The microphone and PSU may be cleaned with a soft damp cloth. Alcohol or methylated spirits can be used to carefully clean the metal surfaces.

⚠ IMPORTANT! Always protect the capsule/membranes and electronics when cleaning.

When the equipment is not in use it should be stored in a dry place at room temperature. Use the enclosed microphone slipcover or store the microphone in its case to protect the capsule from dust and dirt.

8. Troubleshooting

This guide can help you troubleshoot some issues you may encounter. If the problem persists, please contact your local dealer/distributor or Milab Microphones directly.

No sound

Possible cause	Possible solution
No power to PSU and/or mic	Ensure that all cables are properly connected. Make sure that the PSU power switch is turned on (see page 5). Check PSU fuse (see page 5).
Signal path issue (Problems with mixer/preamp, cables or connectors)	Make sure that mixer/preamp is working, that the channel is unmuted, and volume is up. Ensure that the XLR cable is working and that it is properly connected. Replace if necessary. Make sure that the microphone cable (between PSU and mic) is properly connected at both ends.

Distorted sound, noise, pops and/or clicks

Possible cause	Possible solution
Overloading mixer/preamp	Turn down gain on mixer/preamp
The vacuum tube needs more time to warm up	Ensure that the system has been powered up for at least 10 minutes before use.
Sound pressure level is too high	Increase the distance between mic and sound source.
Popping/plosive sound when recording vocals	Use pop filter; increase the distance between mic and singer.

Polar pattern is being changed (or has just been changed)	Wait a few seconds for the electronics to stabilise. Noise/distorted sounds when changing the polar pattern is normal, especially when switching between omni and bidirectional patterns (and vice versa).
Air humidity too high	Reduce humidity levels or move the microphone to a location with lower humidity.
Condensation caused by sudden temperature change	Let the microphone acclimatise before use.

9. Lifetime warranty and service

Your microphone is covered by Milab’s lifetime warranty.

The warranty is intended to protect the customer from manufacturing and/or material defects. It does not cover careless or improper handling (intentional or unintentional) such as physical negligence, electrical overload etc.

Detailed terms and conditions apply and can be downloaded from our website. Visit www.milabmic.com/warranty for more information.

If you should experience a problem with your microphone, please contact your dealer/distributor or Milab directly for further instructions. You can also make a service request directly on our website: www.milabmic.com/service-request/

Please note that all technical service should be carried out by Milab Microphones or by a party that has been approved by Milab.

Opening/disassembling the microphone or power supply unit, or making any modifications to the equipment that cannot be considered “normal use” will void the warranty.

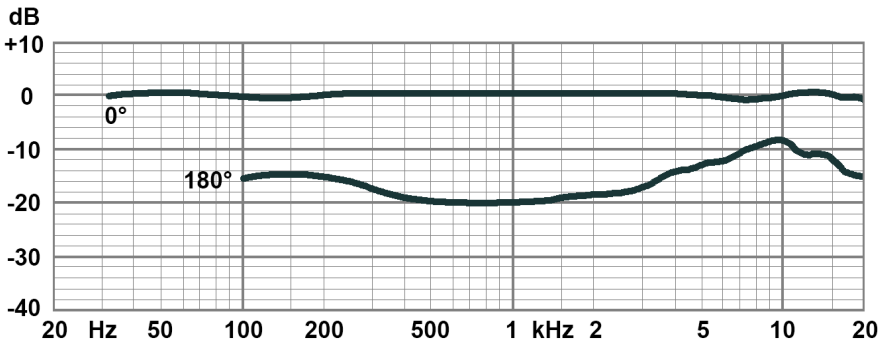
10. Specifications

Type:	Tube condenser
Article number:	B040
Frequency response:	20 to 25,000 Hz
Polar pattern:	Variable
Max SPL (1 % THD at 1 kHz):	126 dB
Sensitivity at 1 kHz:	12 mV/Pa (± 1 dB)
Noise level (IEC 179-A):	16 dBA
Power supply:	AGES NG
Voltage:	Switchable 115/230 V
Output impedance:	200 Ω
Connection:	3-pin XLR (from PSU)
Microphone cable length:	10 m

Microphone length:	238 mm
Microphone diameter:	42 mm
Microphone net weight:	640 g

PSU length:	220 mm
PSU width:	100 mm
PSU height:	110 mm
PSU net weight:	1 800 g

Frequency chart (cardioid):



Polar diagram: Coming soon

11. Declaration of conformity (CE)

Milab Microphones AB declares that this device conforms to all applicable EU directives/regulations. The equipment may only be used for audio purposes and in configurations and environments approved by the manufacturer.



Please contact Milab Microphones to request further documentation.

12. Environment

This product must be disposed of in accordance with local applicable regulations for electrical and electronic equipment.



13. Legal notice/user agreement

Pearl Microphones is a trademark of Milab Microphones AB, Sweden.

Milab Microphones AB assumes no liability for damages, direct or consequential, which may result from the use of the supplied product. Under no circumstances and under no legal theory, tort, contract, or otherwise, shall Milab Microphones be held liable to you or any other person for any indirect, special, incidental, or consequential damages of any kind, including, without limitation, damages for loss of goodwill, work stoppage, computer or equipment failure or malfunction, or any and all other commercial damages or losses. This limitation of liability shall not apply to liability for death or personal injury to the extent applicable law prohibits such limitation.

This User Agreement shall be exclusively subject to the laws of Sweden.

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14. Contact information

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