



Technical Note

ESD Handling Guidelines for Elements Amplifiers



Electrostatic Discharge (ESD)

Electrostatic Discharge (ESD) is the sudden transfer of electrostatic charge between objects at different electrical potentials. ESD events can occur during normal handling of electronic equipment and may not be perceptible to the operator.

Elements amplifiers contain ESD-sensitive electronic components.

Exposure to ESD may cause immediate damage, latent failures, or degradation of performance. For this reason, proper ESD precautions must always be applied when handling the device.



To prevent electrostatic damage, the following equipment is recommended:

- ESD wrist strap (provided by Elements)
- ESD mat or suitable workbench
- Proper grounding point (ground socket)

ESD mats, wrist straps, and grounding sockets are standard laboratory items and are widely available online from electronics distributors and laboratory equipment suppliers. These accessories are low-cost compared to the value of the instruments they protect and are strongly recommended.

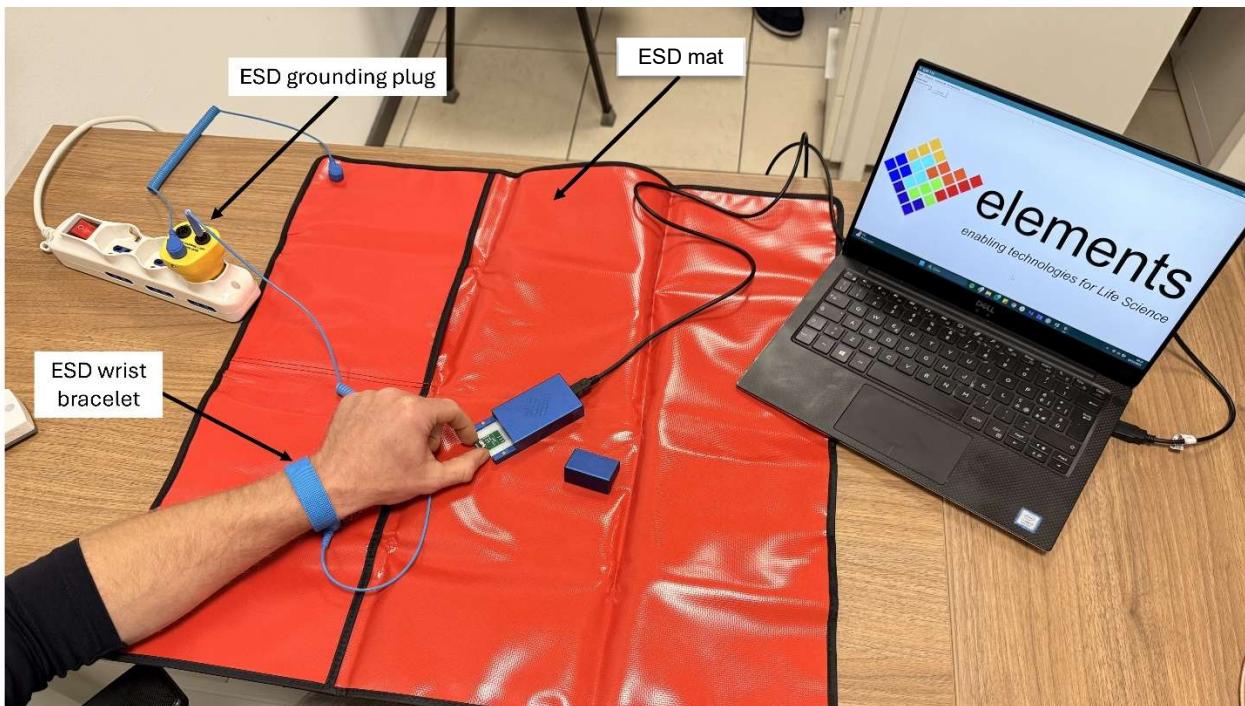
If the workbench is not ESD-certified (e.g. wood, plastic, or ungrounded metal surfaces), the use of an ESD mat is strongly recommended and must be connected to a verified ground point.



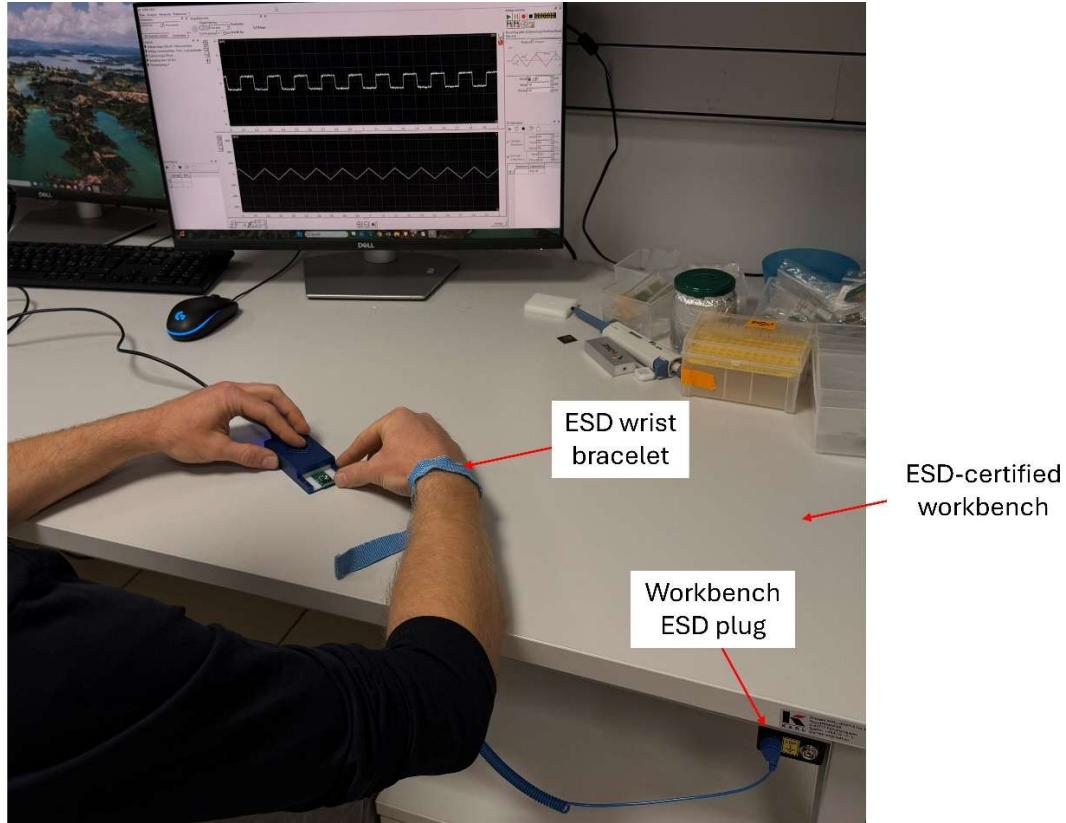
All equipment must be correctly connected to ensure effective protection



The picture below illustrates the correct handling of an eNPR amplifier. When a standard wooden desk is used, the amplifier is placed on an **ESD mat connected to a grounding socket**. The operator wears an **ESD wrist strap connected to the same ground point**.



If the **workbench** is **ESD-certified** and properly grounded, an additional ESD mat is not required. In this case, the **wrist strap must be connected to the grounding plug on the workbench**, as shown in the picture below.



When the amplifier is used in a setup that includes a Faraday cage (e.g. when using the ePatch amplifier), the operator should wear an ESD wrist strap connected to the Faraday cage using an alligator clip.

