



# Electro Optical Components, Inc.

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## Application Notes Amplifier Grounding

11/2/06

The amplifier housing is connected directly to the shield of the BNC output connector and that's how people usually ground the device. If an additional grounding wire is required the customer can take off one of the black isolation nipples and connect a solder lug to this hole.

## DLPCA-200 Grounding

06/08

Grounding can either be very simple or quite difficult, it depends on the application.

If you use FEMTO's PS-15-25-L there is no need for extra grounding because PS-15 floats against ground. If you use a different PS make sure that its 0 V output line is connected to pin3 of the LEMO power supply connector. An additional connection of the PS-ground towards the DLPCA ground is usually not required (but we cannot recommend from the distance as we do not know your setup there).

Most important is a good coax connection between your photodiode and the DLPCA because of the small input signals. If necessary use bias to the PD via this coax, its level can be adjusted by the multi-turn trimpot with the respective switch placed to "Bias" position, without bias switch to GND.

Use shortest possible coax length in order to minimize noise pickup and reduce the source capacitance as seen from the amps input towards the signal source (typ. 2.5 pF/inch coax length). As the bias is routed via the coax shield do not extra ground the cable (this would short the bias).

Grounding will be made automatically at the DLPCA casing when you connect its output to another device (e.g. oscilloscope or other signal processing) via the amps output coax.

If an additional ground is required depends on the each application. As long as you do not notice hum and unusual noise effects (e.g. caused by ground loops) no extra grounding is necessary. Test and see if extra grounding is needed.