

Enclosure Design Requisition

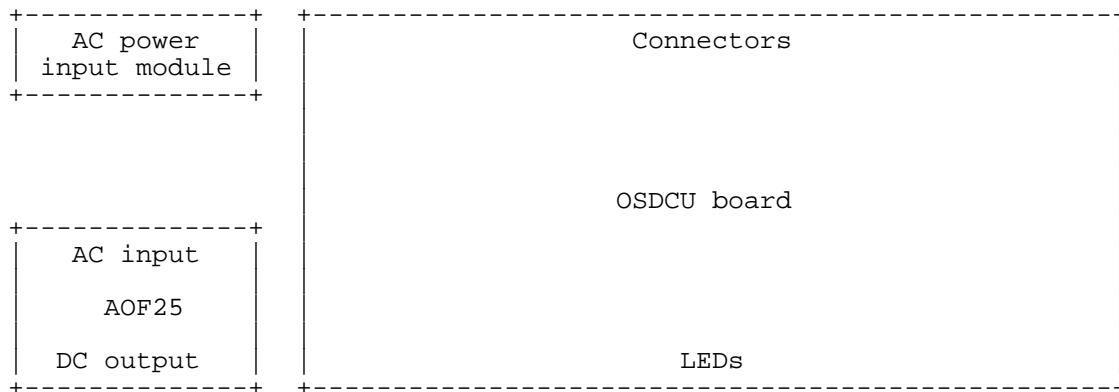
An enclosure is needed for the OSDCU board, a fully open source non-profit SDSL physical layer interface device. The desired enclosure type is of the same general kind as that used by Copper Mountain for their CopperRocket SDSL/IDSL modem: please examine the supplied CopperRocket sample unit.

This enclosure consists of two specially cut and bent sheet metal pieces. The bottom metal piece acts as the baseplate to which the main circuit board and other system components (see below) are secured, and it also provides the rear panel through which user-accessible connectors protrude. The top metal piece acts as a cover and also provides the front panel with cutouts for LEDs and a place to put identifying markings. However, unlike the CopperRocket, the OSDCU enclosure needs to provide housing for 3 separate components:

- * The OSDCU board itself
- * An open frame power supply
- * An AC power input module

The boardmech.pdf document contains mechanical drawings of the OSDCU board itself, illustrating all dimensions relevant for fitting into an enclosure. The open frame power supply used with the OSDCU is Amperor AOF25. A detailed mechanical drawing of this part needs to be obtained from Amperor. The AC power input module will be either Qualtek P/N 761-18/003 or P/N 762-18/002 from the same vendor (drawings included in the ZIP archive). Ideally the enclosure design should be able to accommodate either part.

The 3 components just listed will be arranged within the enclosure as follows (schematic drawing not to scale):



The AC power input module shall snap into the rear panel part of the bottom metal piece, ending up alongside with the OSDCU board's own protruding connectors. This module will have an attached internal cable which will plug into the AC power input connector on the AOF25.

An additional feature which needs to be provided by the *bottom piece* of the enclosure is ground lead connection. Qualtek AC power input modules provide an IEC 320 mains entry (3 leads), whereas the AC power input connector on the AOF25 only has 2 leads. The OSDCU board expects to get its chassis ground connection through the copper annuli of its mounting holes, hence this ground connection needs to be provided via the metal body of the enclosure. The *bottom piece* (which holds all components together) needs to feature a grounding stud to which a wire lead from the AC power input assembly will attach.

Finally, an internal cable will carry DC power from the AOF25 to the OSDCU board. The placement of the AOF25 in the enclosure relative to the OSDCU board should make this connection convenient.