



## **Quanterra Q730 Seismic Data Logger Hardware Errors**

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The Slovenian National Seismic Network consists of 25 digital broadband seismic stations. They are all equipped with Quanterra Q730 data loggers. Miscellaneous hardware errors have been occurring since we started to use Q730 eight years ago. Exposure to humidity, high and low temperatures, unstable power supply and aging are usual reasons for the errors. We have detected, localized and removed all the errors. In some cases, necessary spare parts were supplied from a vendor, but no Q730 has been sent back for a repair.

The most common errors are flash disk and memory failure. As a consequence of the disk failure, in most cases a diskboot fails, too. A disk can be mounted (can be the same, if it's not physically damaged) to another Q730 by creating its device descriptor and module in OS9. Now the data from functioning disk can be copied to damaged one using backup or dsave command, depends on the size of the mounted disk.

In the case of memory failure, when one of two memory cards is partly damaged, a system state exception error appears. The damaged card has to be removed and replaced by a functioning one, which has to be inserted in primary slot. If the card in primary slot is completely broken down, the system doesn't even attempt the diskboot.

Other errors: Because of the opposite polarization of a capacitor, which supplied a chip in charge for serial communication, a TERM connector didn't output any data. A couple of GPS boards stopped working, which required replacing them. A DC supply board needed fuse and diode replacement. In some cases, lightning stroke caused erasing of data on PLD ROM and destroyed a couple of network cards.

Abovementioned Q730 errors have caused a different amount of seismic data loss.  
Those data were lost forever.