

Technical Report

Damaged Digi-Shock G Impact Recorder - Data Extraction from Memory Chip

IOG Products technical team was given the task to recover the data from a severely damaged Digi – Shock G. The device was at the final stages of the mission when it was crushed while monitoring paperboard rolls when they were pulled from the freight car. It was critical for the Logistics Manager to see the data since the company was attempting to identify damage areas during the transportation chain.

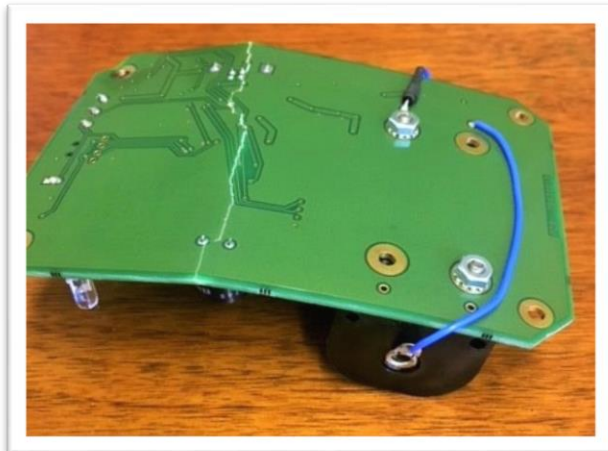
The technical team received the damaged device and documented the damage with the following images.



Digi Shock G cover (little damage) but case and circuit board extensive damage



Device case damaged showing bent circuit board. Battery case cracked broken.



Removed circuit board showing crack causing the board to be non-functional.



Damage to the empty case.

How the Technical Team Extracted the Data

The Digi-Shock impact recorder uses a Non-Volatile memory chip that will store data without power. If this chip is not damaged from impacts, we can recover data for our customers.

Normally we would need the PCB to be able to power up and then we have some tools to extract data from the memory chip. In this case however the PCB was cracked, the battery case was broken, and the tamper switch was destroyed. The damage experienced by the PCB was not repairable and the unit was not going to power up anymore.

What we were able to do for Graphic Packaging was to remove the memory chip from the damaged PCB and install it into a good PCB and then read the results.

Since the data is stored in a dedicated file on the Digi-Shock we were able to email the data file to the customer for their review.



The memory chip was removed from the damaged board and added to new PCB shown above. The mission data could then be extracted and e-mailed to the client for review.