



## **Extending a Lippmann style seismometer's dynamic range by using a non-linear feedback circuit**

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A Lippmann style seismometer uses a single-coil velocity-feedback method in order to extend toward lower frequencies a geophone's frequency response. Strong seismic signals may saturate the electronics, sometimes producing a characteristic whale-shaped recording.

Adding a non linear feedback in the electronic circuit may avoid saturation, allowing the strong-motion use of the seismometer without affecting the usual performance. We show results from both simulations and experiments, using a Teledyne Geotech s13 as a mechanical part.