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# NASA TECH BRIEF

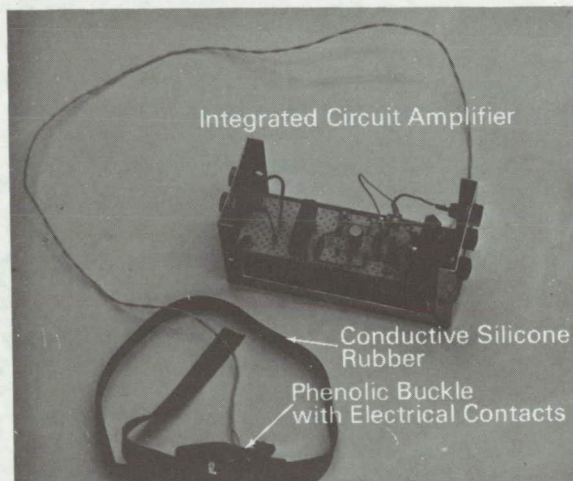
*Marshall Space Flight Center*



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## Conductive Elastomeric Extensometer

A bridge circuit, in which a conductive elastomeric material is the variable leg, precisely measures surface area changes in the human body. The circuit, of in-



terest to manufacturers of biomedical plethysmographs or extensometers, readily detects and measures changes caused by heartbeat, breathing, muscle flexing, or negative pressure (vacuum) environments on all or part of the body.

The bridge circuit output is fed into an integrated circuit amplifier. During operation, any change in volume causes an unbalanced condition and a current

flow from the bridge to the amplifier. The amplifier output (volts) is compatible with recorders, voltmeters, oscilloscopes, and other appropriate devices.

The circuits can be used singularly, or in quantity by simply adding elements and amplifier circuits. If a large area of the body is to be monitored, the conductive elastometer strips can be located in a form-fitting garment.

### Note:

Requests for further information may be directed to:  
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### Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to:

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Category 01