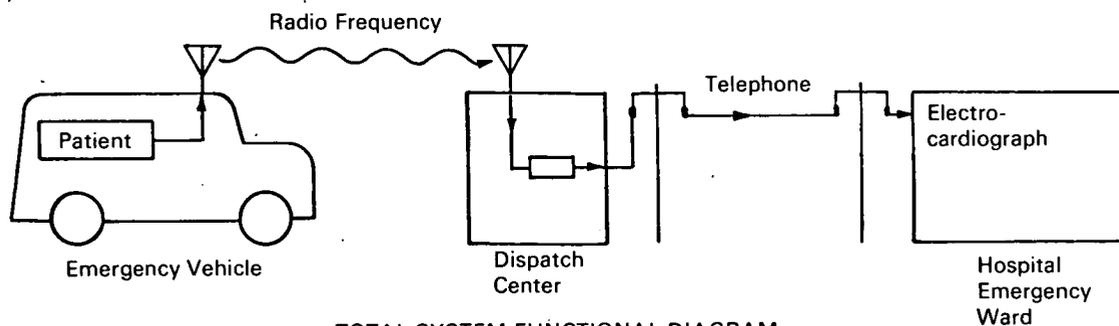


# NASA TECH BRIEF



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## Electrocardiograph Transmitted by RF and Telephone Links in Emergency Situations



TOTAL SYSTEM FUNCTIONAL DIAGRAM

In the handling of injured or stricken human subjects at a distance from hospital emergency facilities, diagnosis of required therapy has in the past been delayed by that time increment involved in transporting the subjects to the hospital. To eliminate the major portion of this delay, a system has been devised whereby the cardiovascular function of the subject may be monitored at the hospital facility by means of an rf/telephone-transmitted electrocardiograph of the subject from the ambulance immediately following arrival at the emergency scene.

This system permits the use of voice (standard) rf transmitting and receiving components between the ambulance and a centralized dispatch station (to afford optimum use of hospital selection by location) and commercial voice telephone connection to the selected hospital emergency room. The overall system is illustrated above and the separate functional units are shown in the following illustrations. Success with this idea has been accomplished by a combination of simple amplification and basic filtering techniques in the emergency vehicle electronics and the use of relatively anechoic devices for speaker-to-microphone

arrangement at the three operational locations, emergency vehicle, dispatch center, and hospital emergency ward.

### Notes:

1. This technique should be of interest to emergency services and all rescue organizations.
2. Inquiries concerning this invention may be directed to:

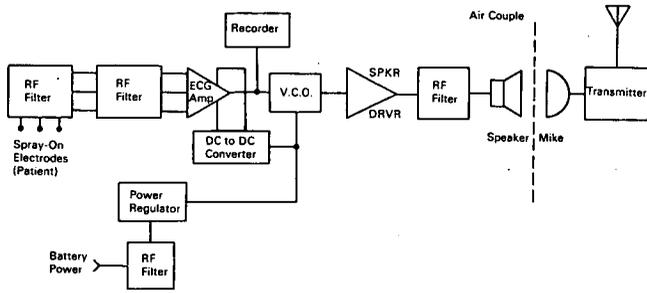
Technology Utilization Officer  
Flight Research Center  
Post Office Box 273  
Edwards, California 93523  
Reference: B68-10233

### Patent status:

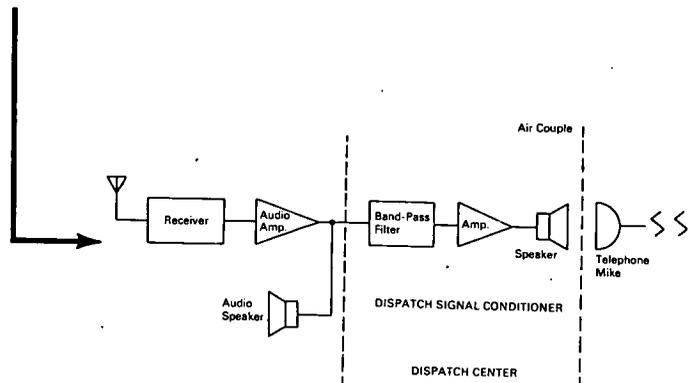
Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: Charles E. Lewis, Jr.,  
Lewis R. Carpenter, and Robert T. McDonald  
(FRC-10031)

(continued overleaf)



EMERGENCY VEHICLE (NASA EQUIPMENT)



DISPATCH CENTER

