December 24, 1958

Mr. J.J. Suran
Manager-Advanced Circuits
Electronics Park
Syracuse, New York

Dear Mr. Suran:

Thank you for your note of December 16th. I am happy that your heart group has already started to think about our problems. Picking up an audio signal from the chest is not without its difficulties. The noise level would be markedly increased during talking, coughing and such.

The pulse might be picked up in one of the extremities. This should be highly reliable but might be decreased during maximum flexion of the particular extremity. Secondly, one must center the transducer immediately over the vessel and adjust the pressure precisely and this is not without its difficulties.

I still feel that using the R wave of the electrocardiograph would probably be the most reliable method of synchronizing the two hearts. It is probable and practicle to pick up the electrical signal from the surface of the heart where the signal to noise ratio should be extremely favorable, but for the external models, this would require passing wires from the skin which again would be undesirable. I do believe we can pick favorable areas of the surface of the body (comparatively free of muscles) where the muscle noise would be minimized. We will take some records here and see if we can find the most favorable point and I will then send you copies.

I am looking forward to the opportunity of visiting with your group so that we can sit down together and form our plans. Please convey my wishes for a pleasant holiday season, to your colleagues.

Sincerely yours,

lp

Adrian Kantrowitz, M.D.