

March 25, 1965

HIGH RESOLUTION SCREEN



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In the final stages of completion of the present contract with [] the work effort was re-oriented slightly in conference discussions between []

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[] was decided that a screen test program conducted at [] would be more informative than a demonstration at your facility. In addition it was decided not to aspherize the lens being manufactured since that would not contribute to the final test program.

[] had requested additional funding on the present contract which was approved and in process. As of February 15, however, they had to stop work because the existing funding had been expended. The additional funding has not been received as yet. It is expected in early April and at that time work will be resumed.

The lens elements are being manufactured by [] [] The elements have been completed and tested and returned to [] for cementing. [] will assemble and test the lens when the cemented elements are received.

The dichroic filters, for passing the UV light and reflecting the visible, were received and when installed in the projector set up will improve the efficiency. It is expected that the dichroics will increase the UV intensity at the screen and eliminate the strong visible violet spot which occurred with the absorption filters previously used. The principal goal of the present activity was to establish the feasibility of rear projection viewing of a phosphor coated screen illuminated by ultraviolet light. It was believed that:

- a.) Higher screen resolution would be obtained
- b.) Wider viewing angles would be obtained

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- c.) Ambient room light could be higher without interfering with viewing.

The resolution and the viewing angles achieved were superb, even beyond expectations. The ambient room light capability is still believed to be good but has not yet been proven.

Follow on work will be concerned with improving efficiency and solving some of the engineering design problems. It has been proposed that the work be done on a project type contract which will cover three general related areas:

- a.) Continuation of the phosphor investigations.
- b.) Design and manufacture of special purpose optics.
- c.) Development of special purpose light sources.

The phosphor work will also include some work on combining electroluminescence with the ultraviolet excitation of the phosphors. It was not recommended that design of a prototype rear projection viewer be initiated yet and that was not included. I believe, however, that before the follow on work is completed, it will be possible to define a prototype viewer and initiate design.

[redacted]

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[redacted] has an interesting development of an electroluminescent screen activated by a photo-conductive layer. I witnessed a demonstration at

[redacted] on March 4, 1965, by [redacted]

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The demonstration was in effect a preliminary confirmation of the feasibility of the [redacted] discussion of obtaining electroluminescence by means of a photo-conductive coating. Previously, the principles were not clear to me and I was somewhat skeptical of the phenomenon actually working. On the [redacted] model, however, it did work so I have much more confidence in that phase of the proposed work being realizable.

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The purchase of [redacted] was completed on Feb. 26. [redacted] resigned as President [redacted] brought [redacted]

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[redacted] in to take over. [redacted] is known to
you as head of [redacted]

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[redacted]