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Memorandum M-2647

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Auth: DD 254
By: R. R. Everett
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Division - 6 Lincoln Laboratory
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

SUBJECT: REASONS FOR REJECTION OF SUGGESTED CHANGES TO SPECIFICATIONS FOR AN/FSQ-7 DISPLAY SYSTEM

To: J. W. Forrester

From: R. von Buelow for the Systems Office - Engineering Design Office

Date: January 25, 1954

Abstract: This office asked for comments on the Specifications for AN/FSQ-7 Display System from all concerned parties. These comments were either favorably considered and incorporated in the addendum to the specifications or were rejected. Reasons for rejections of comments are given here.

I. Comments from Group 38 and Reasons for Rejection

A. **Comment:** 2.1.4 Character Positions. The proposal to move the characters at the same rate as the point and vector is unfortunate ...

Reason for decision: This requirement was made at the request of Group 61. It had originally been intended to move the character format in jumps. This could be done comparatively simply electronically. However, we feel this is partially a function of the ambient light condition and that the light can be so adjusted that persistence longer than a delay cycle will be low enough that an overlap on a decaying display will not cause illegibility for more than a few percent of the time.

B. **Comment:** 3.1 Display Tube. No mention was made of a yellow filter. No matter what the ambient light level is, a yellow filter is desirable.

Reason for failure to mention: We felt this item should be included in the console design specification which is still forthcoming.

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II. Comments from Group 61

A. Comment: Section 1.2.2 Digital Information Display.

The interleave should be as small as possible and preferably should not be greater than 32.

Reason for decision: At the present time we do not know what tube will be used for the DID. It is possible that the tube which is chosen will not permit an interleave of 32 because of the required deflection and intensification times.

If the equipment is designed for an interleave of 64, it is a fairly simple wiring change to count to 32 should this later become possible. The reverse is not true.

B. Comment: Section 2.2.2 Console Selection Units.

How was the maximum number of category inputs at a CSU set at 15?...A total of 15 should suffice for most consoles, but one or two may require a higher number.

Answer: It has been planned that if any console requires more than 15 categories, two CSU's will be provided for that console.

C. Comment: Section 3.0 Display Console.

The description of equipment on a console may not correspond with final console design.

Answer: When the specification is rewritten this paragraph will be changed. The changes, however, will not affect the logical design.

D. Comment: Section 3.1.1 General.

Are we restricted to P-7 phosphor? Can P-19 be used?

Answer: It is felt that with the shorter display cycle, the persistence of P-7 phosphor is perhaps even longer than may be desired. Time has not permitted adequate tests to determine this, and the general consensus is that P-7 is the best choice from the information available. If tests are run before July 1, 1954, and results show that some other phosphor is more desirable, a change can still be made.

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Comment: Section 3.7 DID Scope

Can more than 30 scopes see one slot? What is the restriction? What if more than 30 try?

Answer: The number of consoles that can see a slot is determined by the line drivers. If more consoles than a driver is designed to handle are put on a line, the signals may deteriorate to a point where operation becomes marginal. No more than 30 scopes will be wired to anyone line; therefore it is not possible for more scopes to see a slot.

Signed Robert von Buelow
Robert von Buelow

Signed N.P. Edwards
N. P. Edwards

RvB/cs

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