

Memorandum M-2676

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By: R. R. Everett  
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Division 6 - Lincoln Laboratory  
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SUBJECT: BIWEEKLY PROGRESS REPORT FOR AN/FSQ-7 29 January 1954  
To: J. W. Forrester, R. R. Everett, Division 6 Group Leaders  
From: P. J. Gray

Display

Agreement has been reached on circuits which will be used for construction of an engineering model display console. A meeting held at MIT on January 26 set up general specifications for the physical features of the console. IBM is now proceeding with plans for construction of the model.

Agreement has also been reached to use an inscribed square (19" diagonal) on the round Charactron tube for the situation display. Also, digital expansion will be used, providing expansion ratios of 2, 4, and 8. Latest study indicates that approximately 100 tubes will be in a console containing both a situation and a digital display tube.

Drums

Since the adoption of the duplex central concept few production machines, it has been definitely decided that only 6 drums will be used with each computer. A proposed drum specification has been circulated for comments.

Data Transmission

A recent meeting regarding this problem resulted in the establishment of a joint A. T. & T. Co., Bell Telephone Laboratories and Lincoln committee to prepare specifications on the requirements of phone circuits. Most of the detail requirements will be generated by the Lincoln representatives and will be subsequently circulated for comments.

Telephone Company representatives have stated that they believe the most difficult problem confronting reliable data transmission is that of impulse noise from various dial circuits.

Group 24 of Lincoln will undertake development of a modulator and receiver-demodulator for transmission of output data from the FSQ-7 Central. The question concerning manufacture of these units by IBM or some other company will be determined later.

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Circuits

Final release for 10 basic circuits for the instruction control frame (and other authorized applications in the system) has been reached. The circuits released are as follows:

- |                     |                                |
|---------------------|--------------------------------|
| Model A Flip-Flop   | Model B Register Driver        |
| " A Gate Tube       | DC Diode Circuits              |
| " A Pulse Amplifier | Pulse Diode Circuits           |
| " B " "             | Standard 5965 Cathode Follower |
| " A Register Driver | Power Cathode Follower         |

Three additional circuits for the instruction control frames, a delay line, push-button generator, and relay pull-in circuit, remain to be released.

Power Supplies

A recent check with G. E. indicated that the D.C. supplies can be operated at 25 percent overload for an indefinite period without affecting the life of the equipment if sufficient ventilating air is provided to limit the temperature use to the design figure. Construction of supplies for XD-2 has been started and XD-1 units will follow immediately. Supplies for XD-1 will be ready for delivery in mid-spring.

Future Production

IBM has received a letter contract proposal for two duplex centrals, it contains advance authorization to expend up to 5 million dollars against this contract pending negotiation of a final definitive contract. IBM acceptance of this proposal is expected during the week of February 1. The contemplated manufacturing interval will commence upon this acceptance.

Signed: P. J. Gray  
P. J. Gray

Approved: A. F. Kromer  
A. F. Kromer

PJG:agc

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