FILE MEMORANDUM

January 2, 1957

Subject: Review of Plans for Exchange

By: W. Buchholz

A review of the Exchange took place on December 28, 1956 attended by Messrs. Brooks, Buchholz, Calvert, Christiansen, Gibson, Goldfinger, Gregory, Griffith, Sarahan, Sweeney, Wild and Wolensky.

The following additions and changes were agreed upon. They modify an earlier file memorandum dated December 28, 1956, to form the specifications for the Exchange:

1.   The medium-speed crosspoint switch will retain 8 simultaneous channels, but the number of units will be increased to 64.

2.   For X 10 tape, 4 channels and 8 units will be provided, each channel transmitting one word at a time.

3.   X 100 tape and fast disks will be equipped for only one unit of either kind reading and one unit writing simultaneously. A maximum of 4 tape units will be provided. It remains to be determined to what extent, if any, the remaining traffic has to be reduced to accommodate these high-speed units.

4.   The address of each input-output unit remains fixed. There will be no manual reassigning of units. Assignment of units is entirely a programming function.

5.   Card image buffers or translators will <u>not</u> be provided in the card readers, punched, and printers. Instead, cards will be read and punched row-by-row, each row being transmitted in the form of sequential 8-bit bytes. Axis conversion will be programmed in the Delta Computer, possibly with the aid of a specially wired 128-by-12 bit conversion memory. The 407 type of printer will be handled in a manner similar to a punch, except that it has 120 columns and carriage control.

6.   For off-line operation only, the card reader, punch, and 407
      type printer will require a simple buffer with serial 8-bit byte
      input and serial 8-bit byte output, so as to permit a full card
      image to be assembled on tape as one record.   Such a buffer
      will have additional important uses for data transmission.
      For instance, a card reader and a serial buffer might be at
      one end of a data transmission line feeding into the Exchange
      at the receiving end.

7.   Whether reasonable automatic restart features can be provided
      in case of errors was questioned, and this requires further
      study.