

高橋秀雄氏の計算機の話 (1)

Nov. 19, 1955

digital automatic computer

Babbage 140% の

1944 Harvard

Mar I.

1947

electronic

Eniac

(電圧 18000V, 記憶: 20910個の2進)

TAC

relais

7K

7 msec 程度

0.3 sec 程度 10 桁

vacuum tube

0.2  $\mu$ sec 程度 (one step)

16  $\mu$ sec 程度 10 桁

IBM NORC 35  $\mu$ sec 13 桁

25  $\mu$ sec 程度

12 msec 程度

access time average (記憶速度)

mercury delay line

Hg の 超導管

1 msec

magnetic recording

20 msec

carbon ray tube

instantaneous

magnetic core

" "

(ferrite)

programming

tape control

internal control

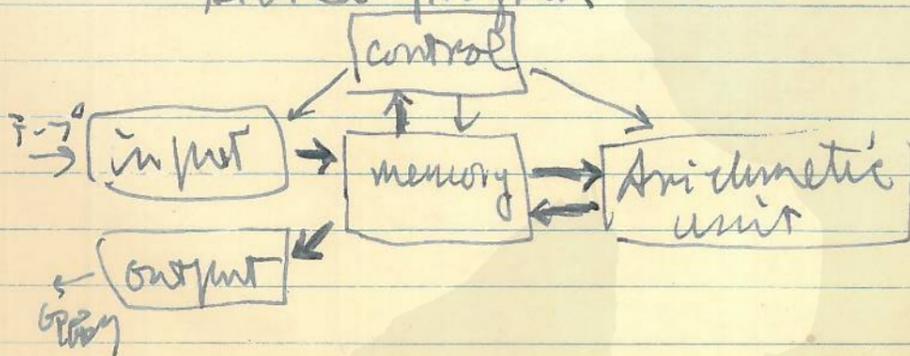
(address operation) instruction

plugboard

20 桁

(UNIVAC 60 120)

stored program



(2)

library subroutine  
EDSAC (Cambridge)

ILLIAC  
interpretative subroutine 4224

pseudoorder  
logical design

automatic coding

learning

creative thinking

3214 0212

1227. matching pennies

parametric excitation