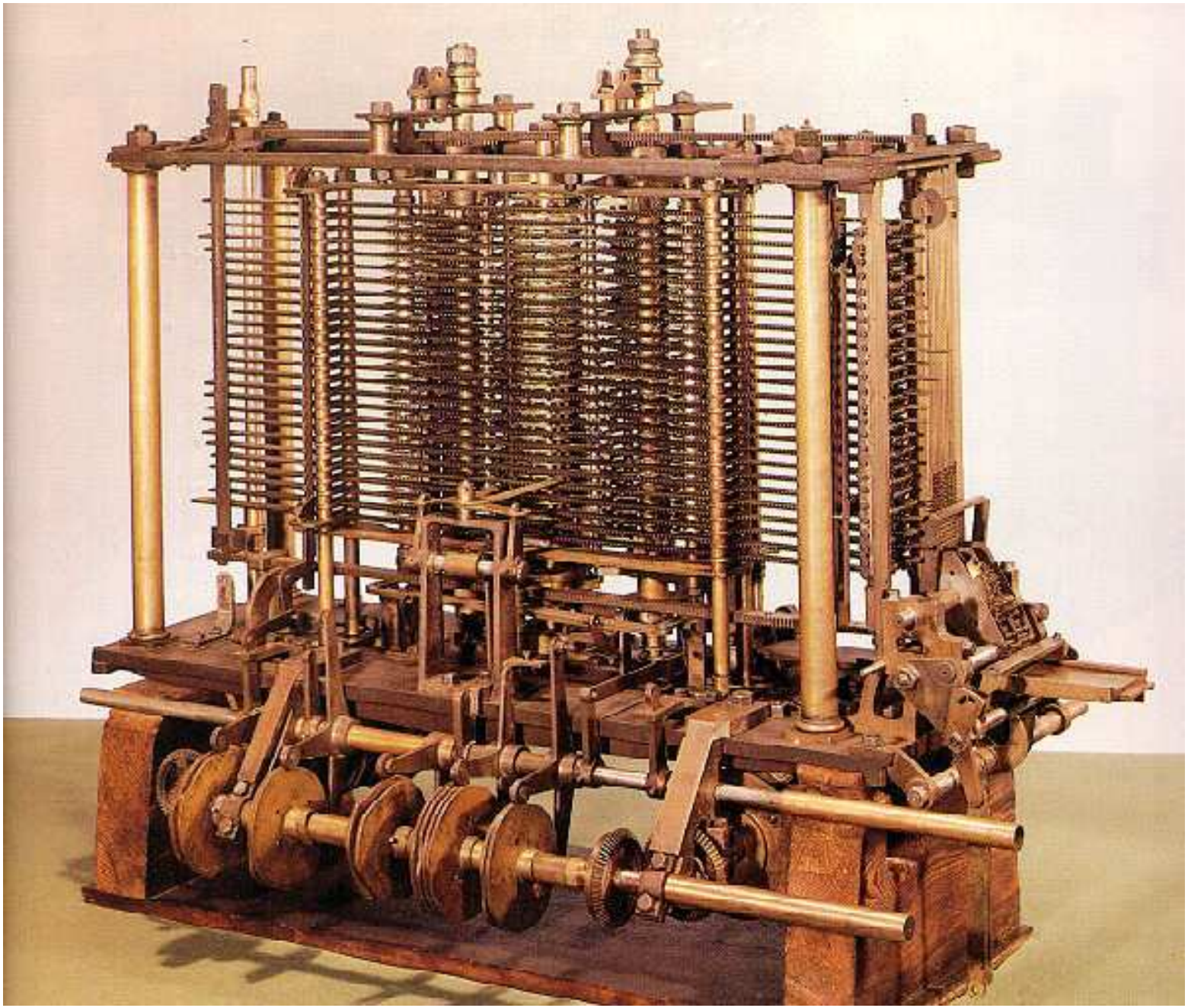
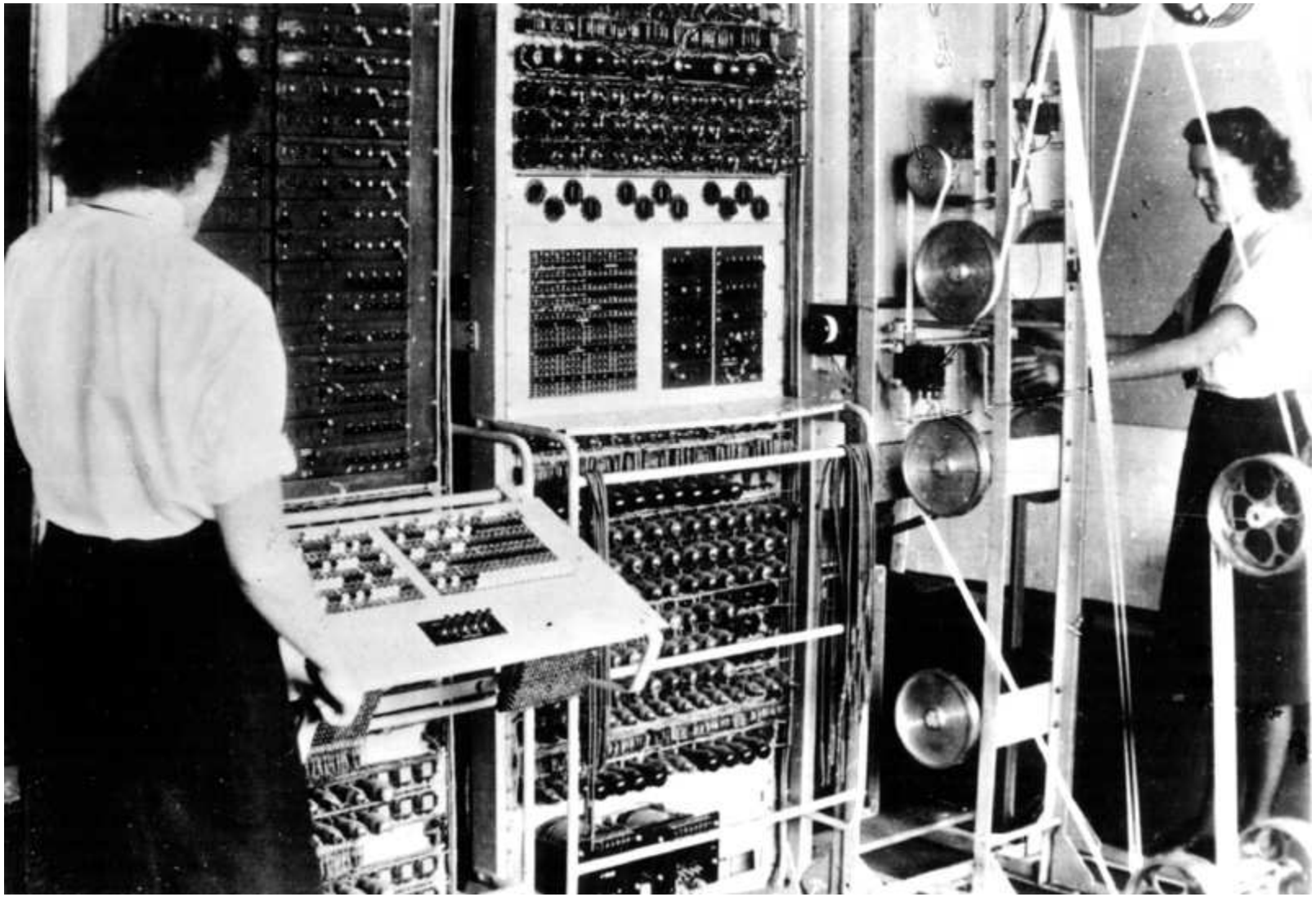
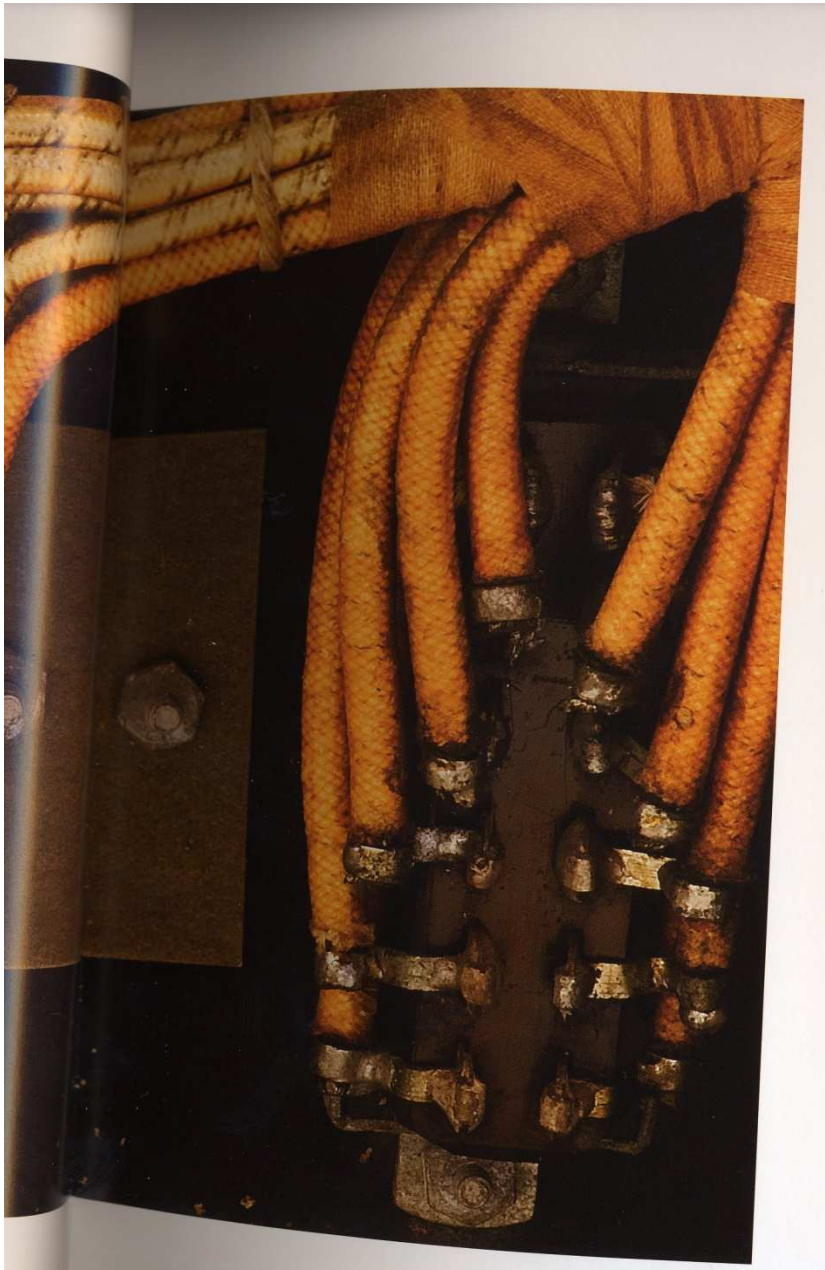
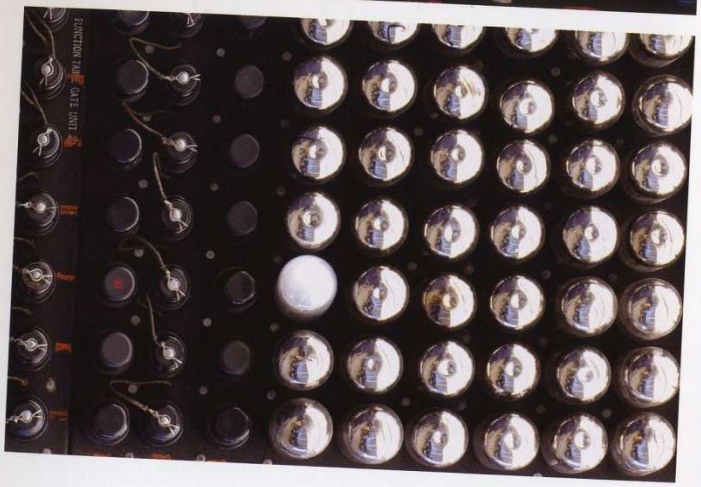
A little history…

In a vivid demonstration of the power of his invention, Joseph-Marie Jacquard, using 10,000 punch cards, programmed a loom to weave a portrait of himself in black and white silk (above).

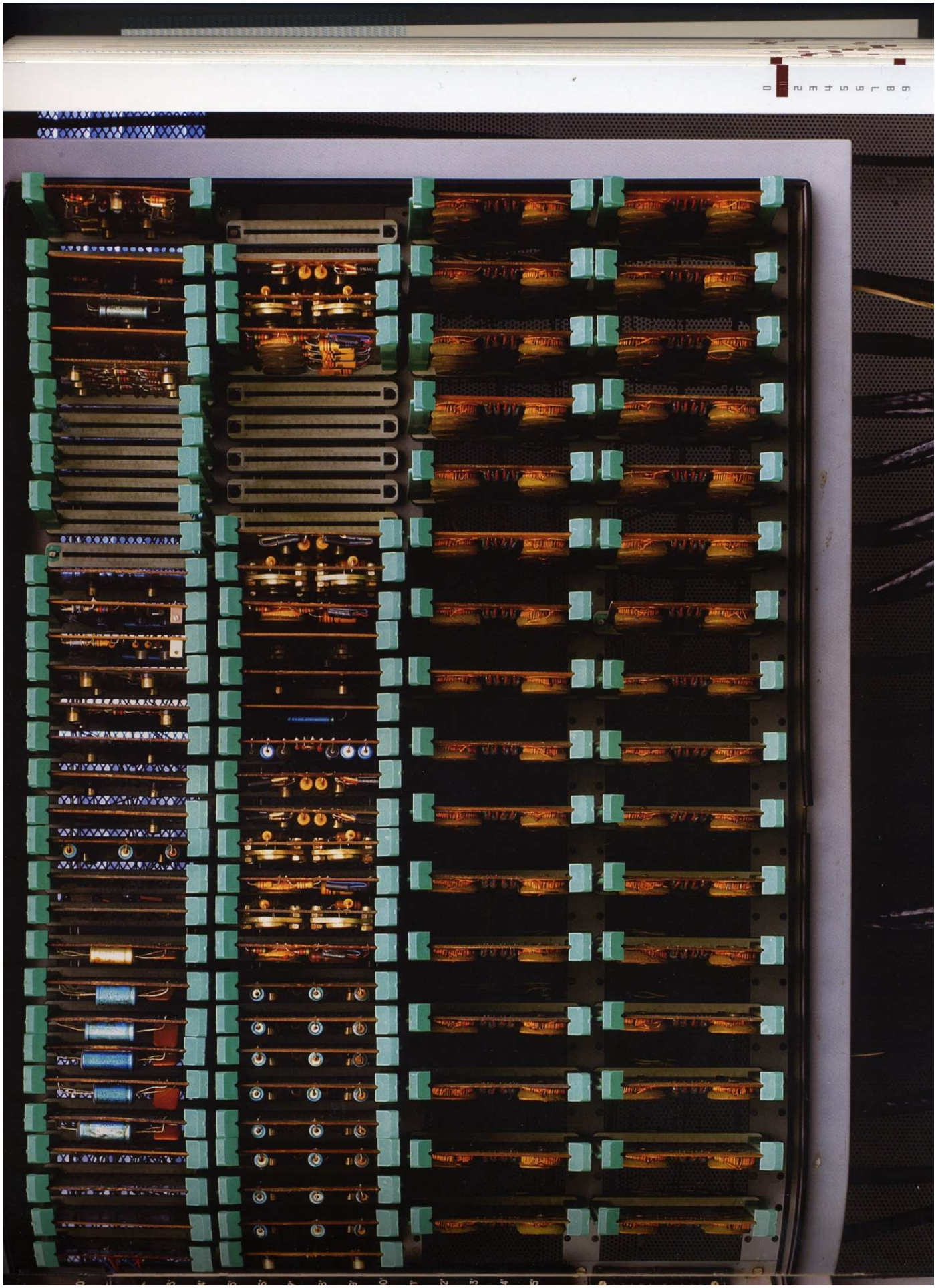


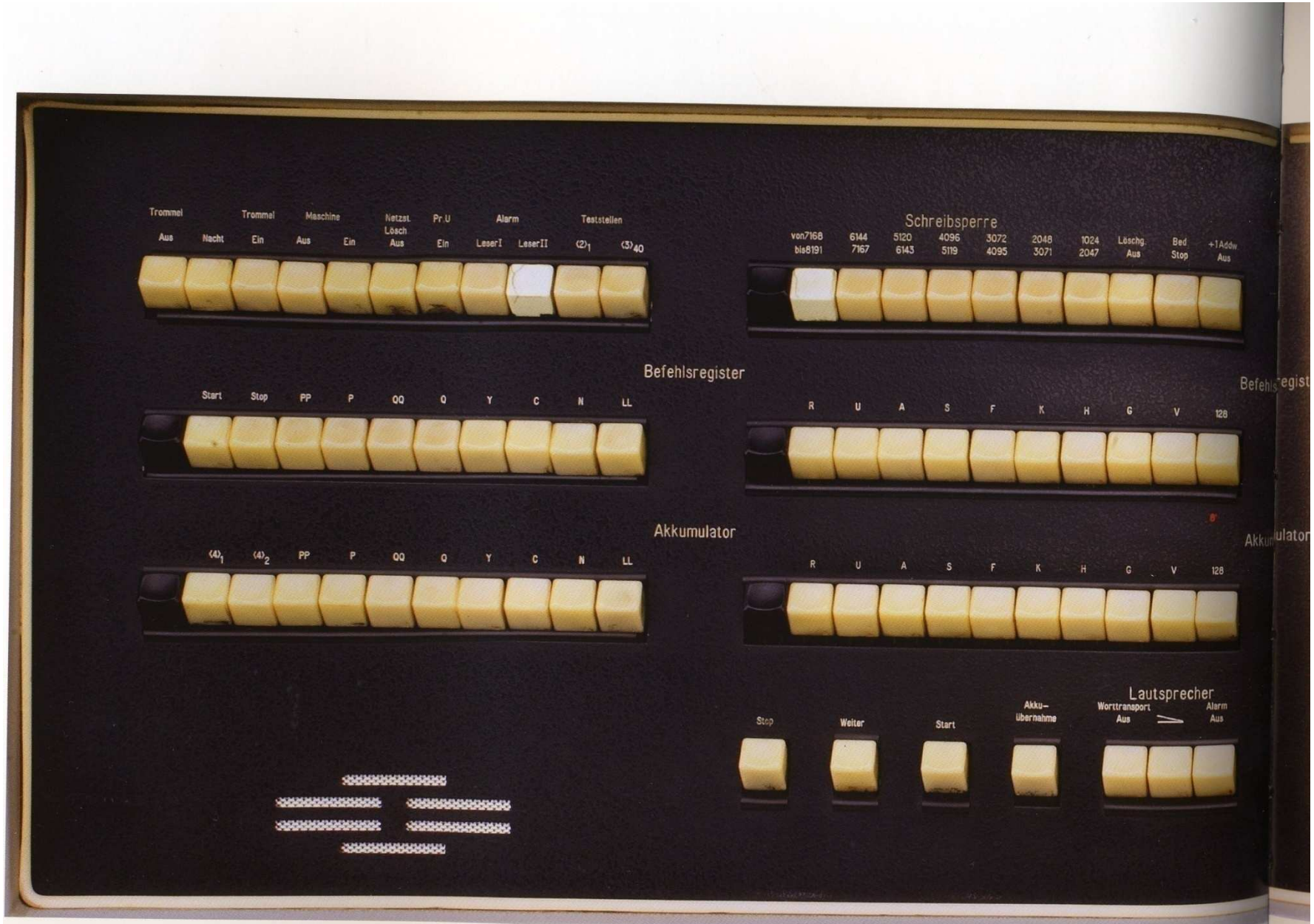




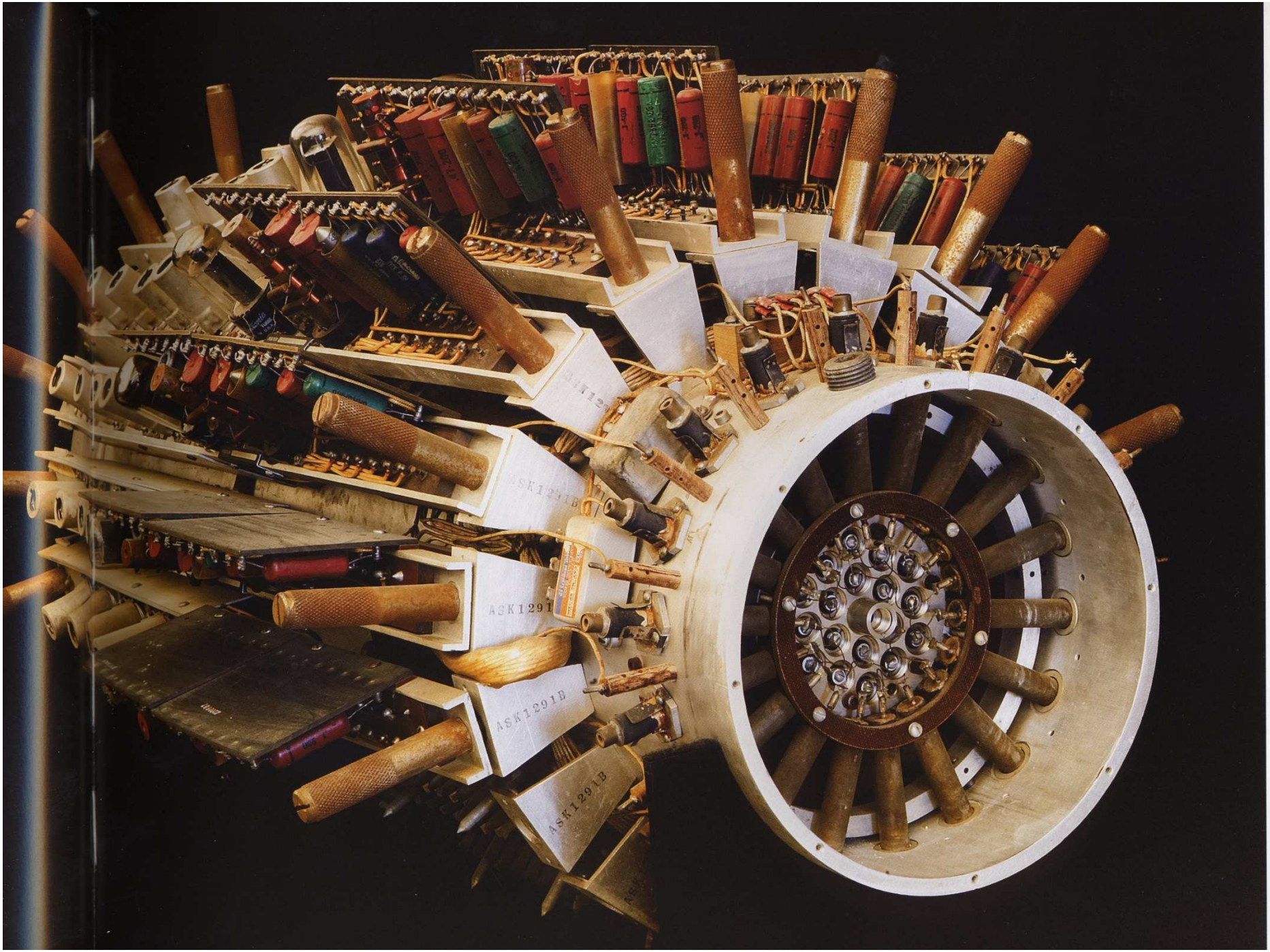


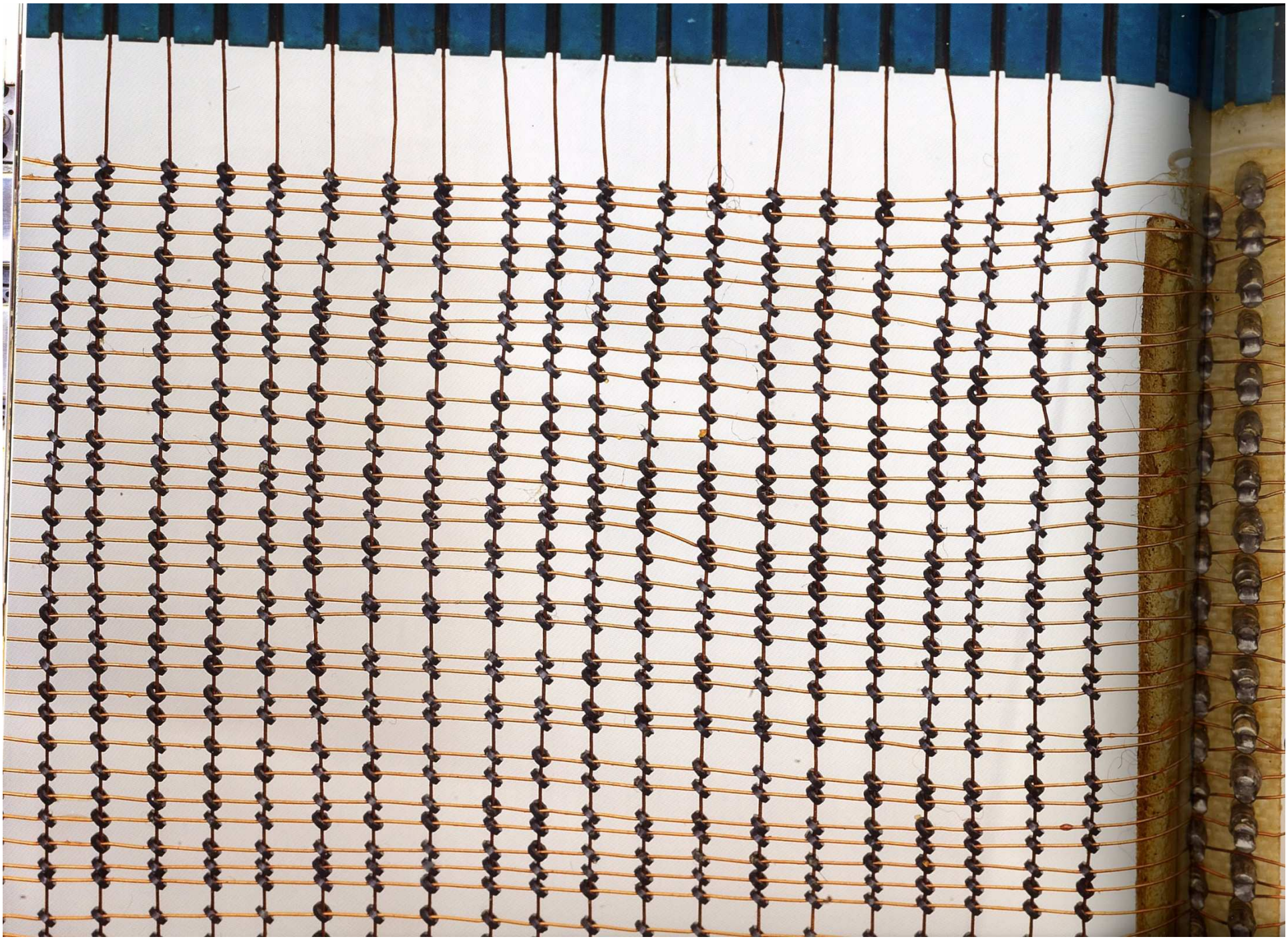
ENIAC (ELECTRONIC NUMERICAL INTEGRATOR AND COMPUTER), 1946

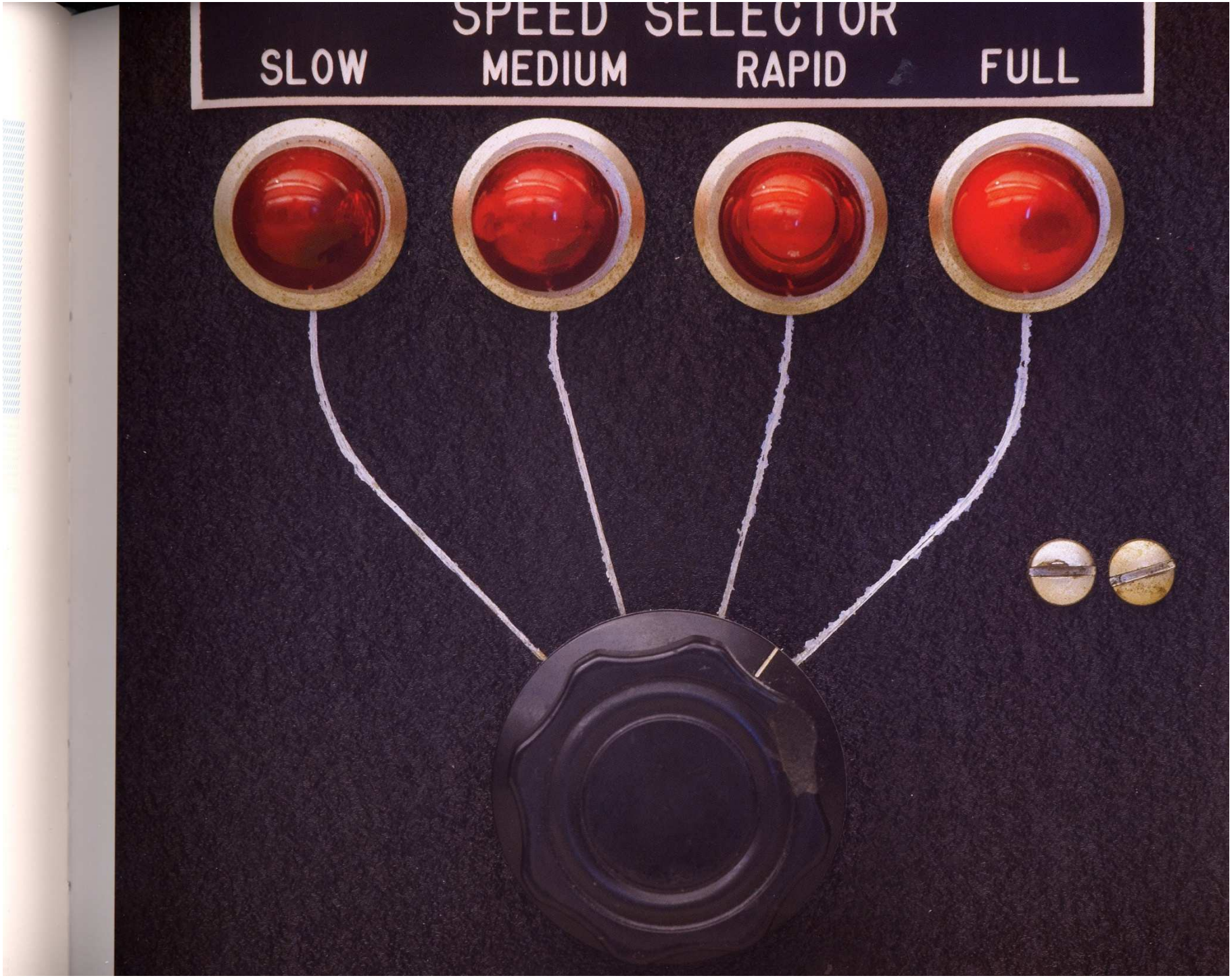


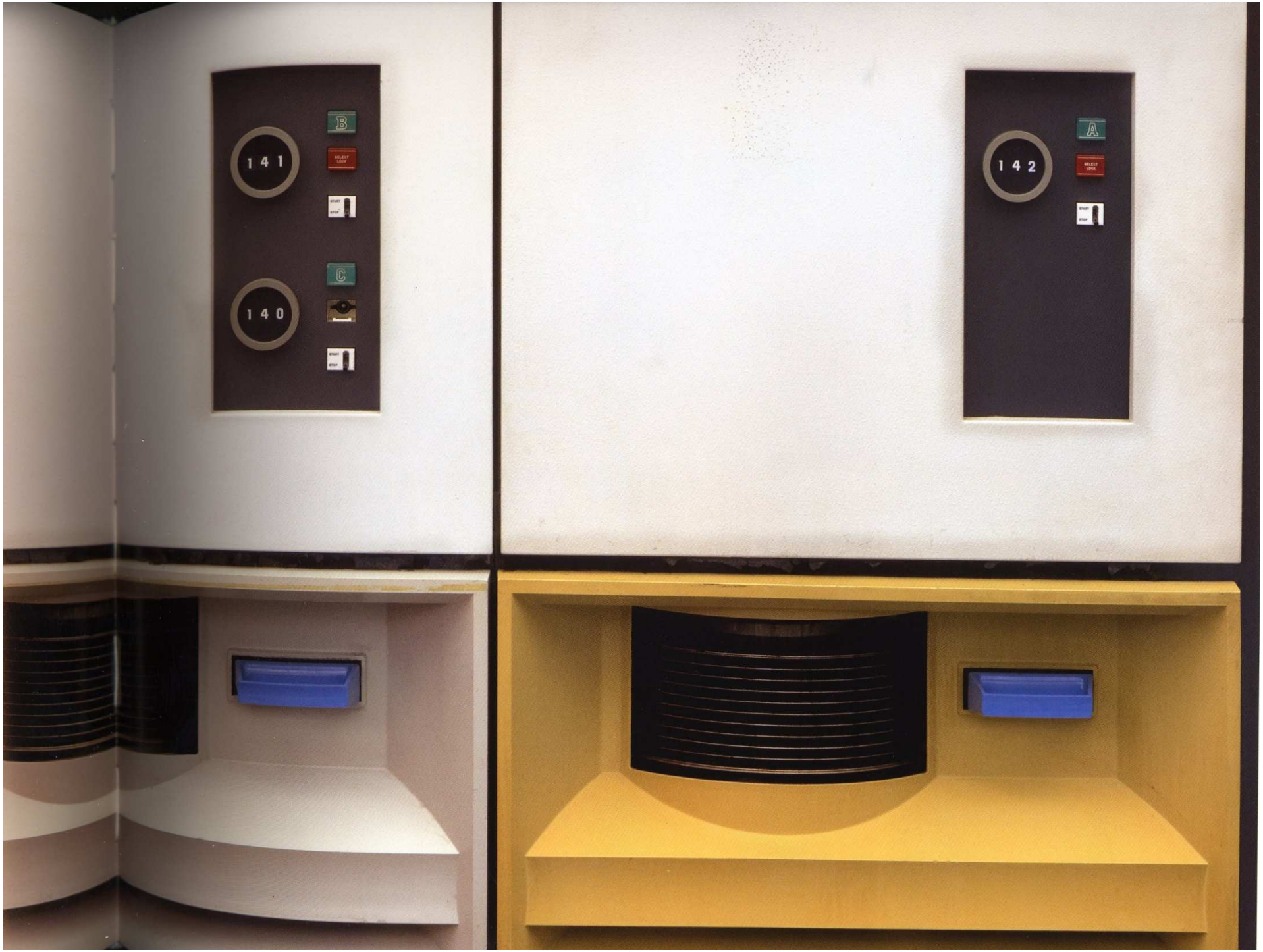


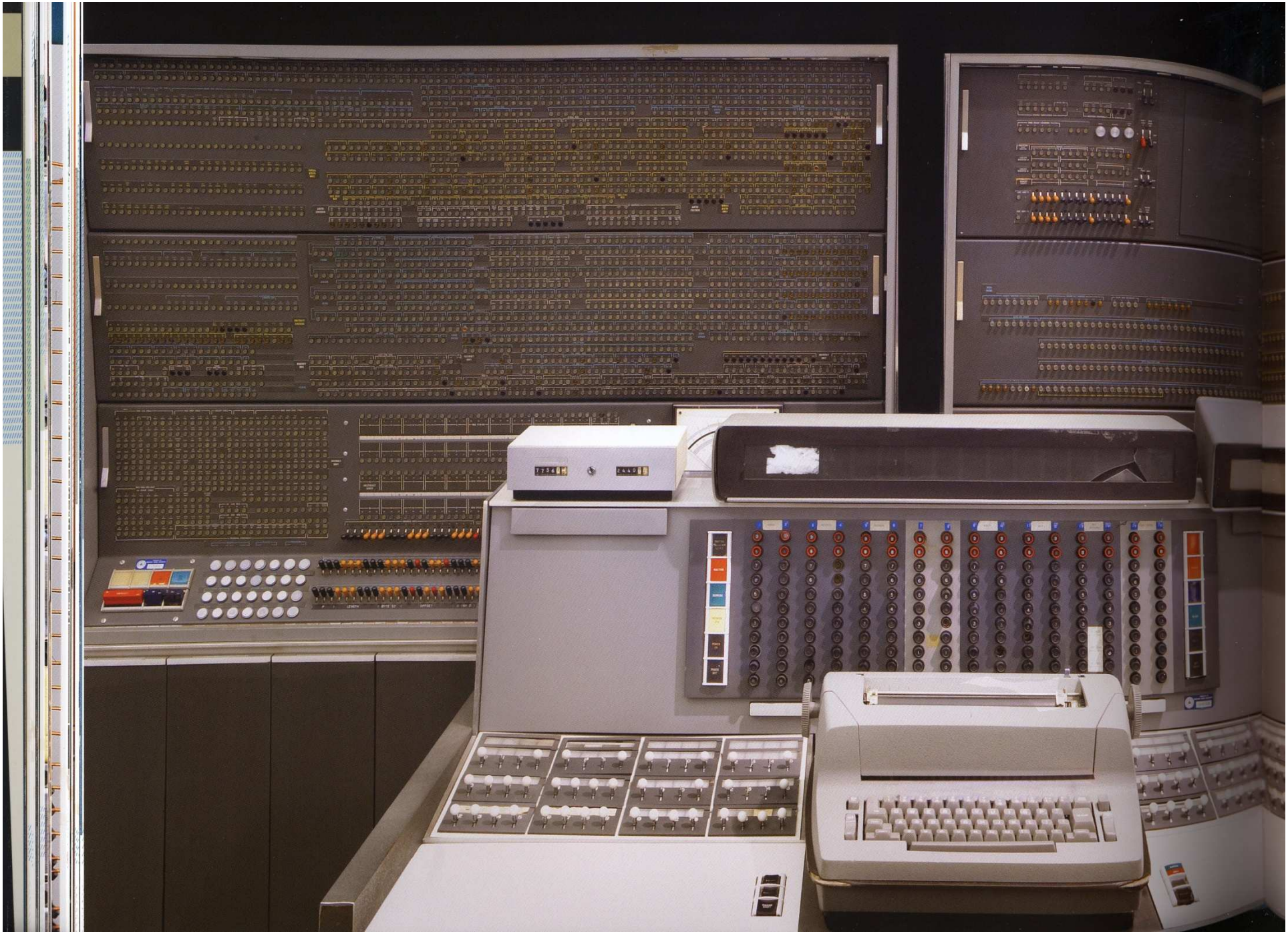
Z3 ADDER
RECONSTRUCTION), 1941


ASK1291B
ASK1291B
ASK1291B




SPEED SELECTOR
SLOW
MEDIUM
RAPID
FULL


141
B
SELECT LOCK
START
STOP
140
C
START
STOP
142
A
SELECT LOCK
START
STOP



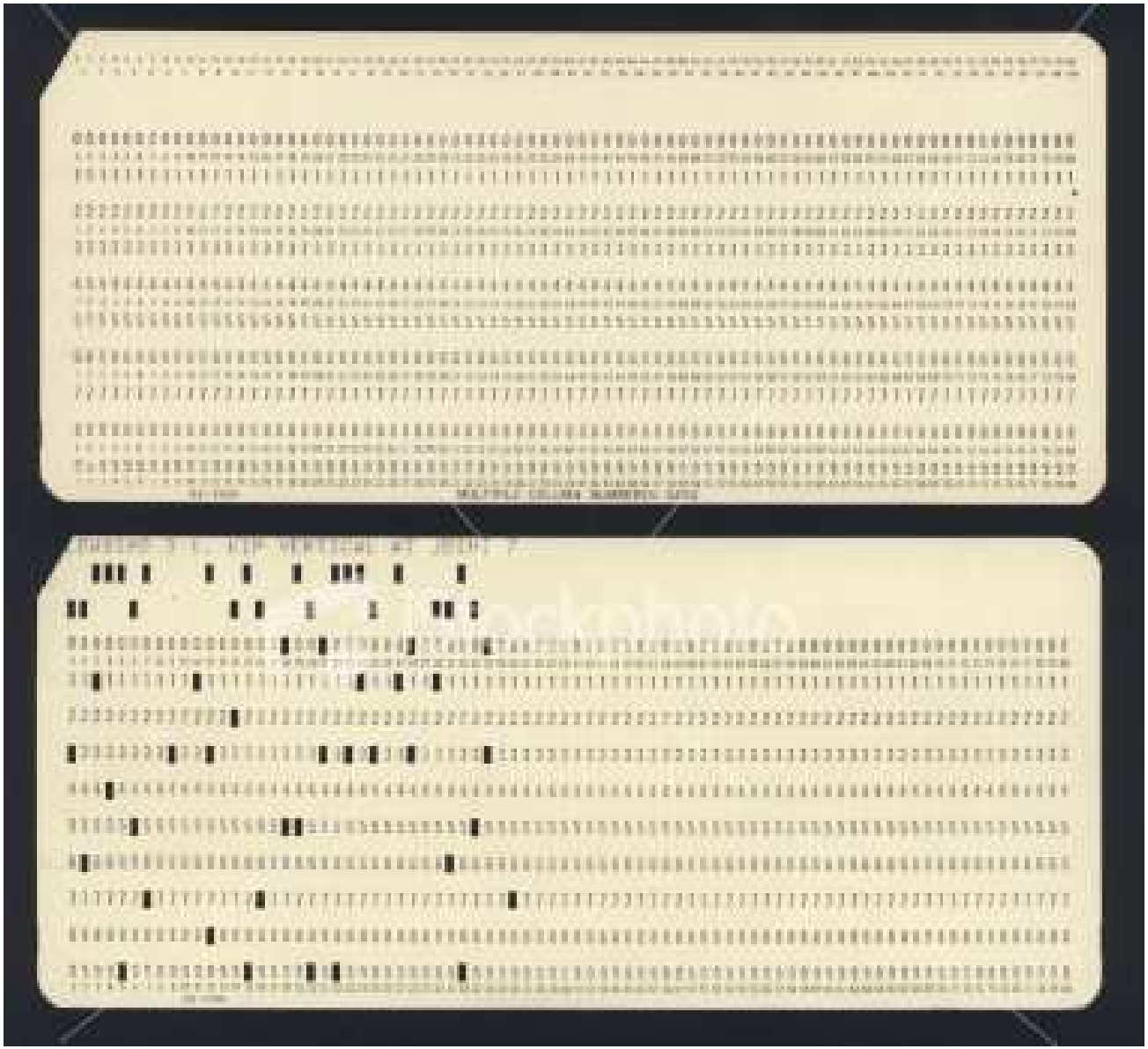
```
STM 14,12,12(13)  #Save registers
LR 12,15                  #base register
USING SIEVEE,12
ST 13,MYSAVE+4
LA 11,MYSAVE
ST 11,8(0,13)
LR 13,11 S
```

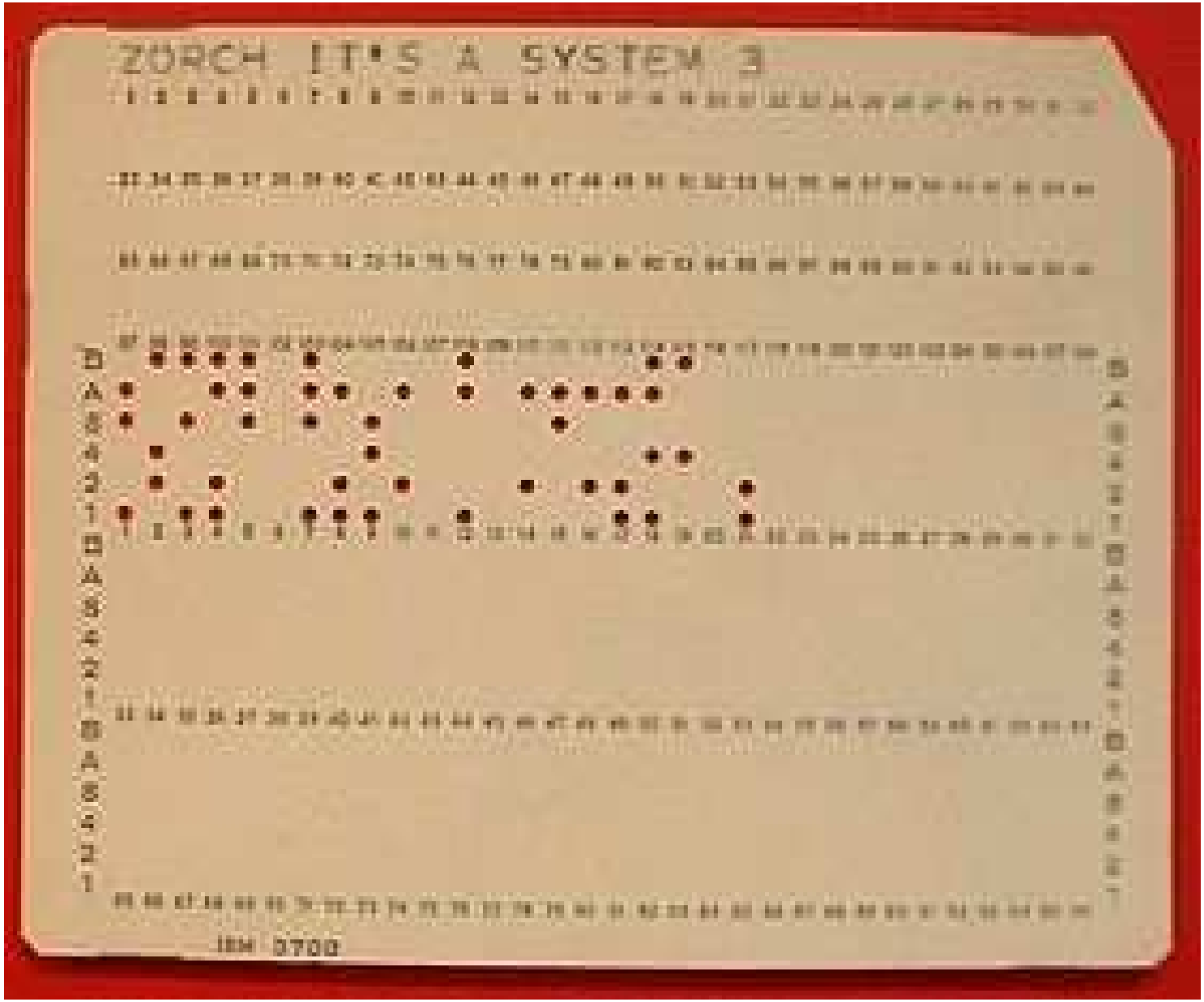
IBM System /360 Assembler
Programmschema

Programm		Lochhinweise		Problem 73 75
		Zeichen		
Programmierer	Datum	Lochung		Seite 76 77 von _____

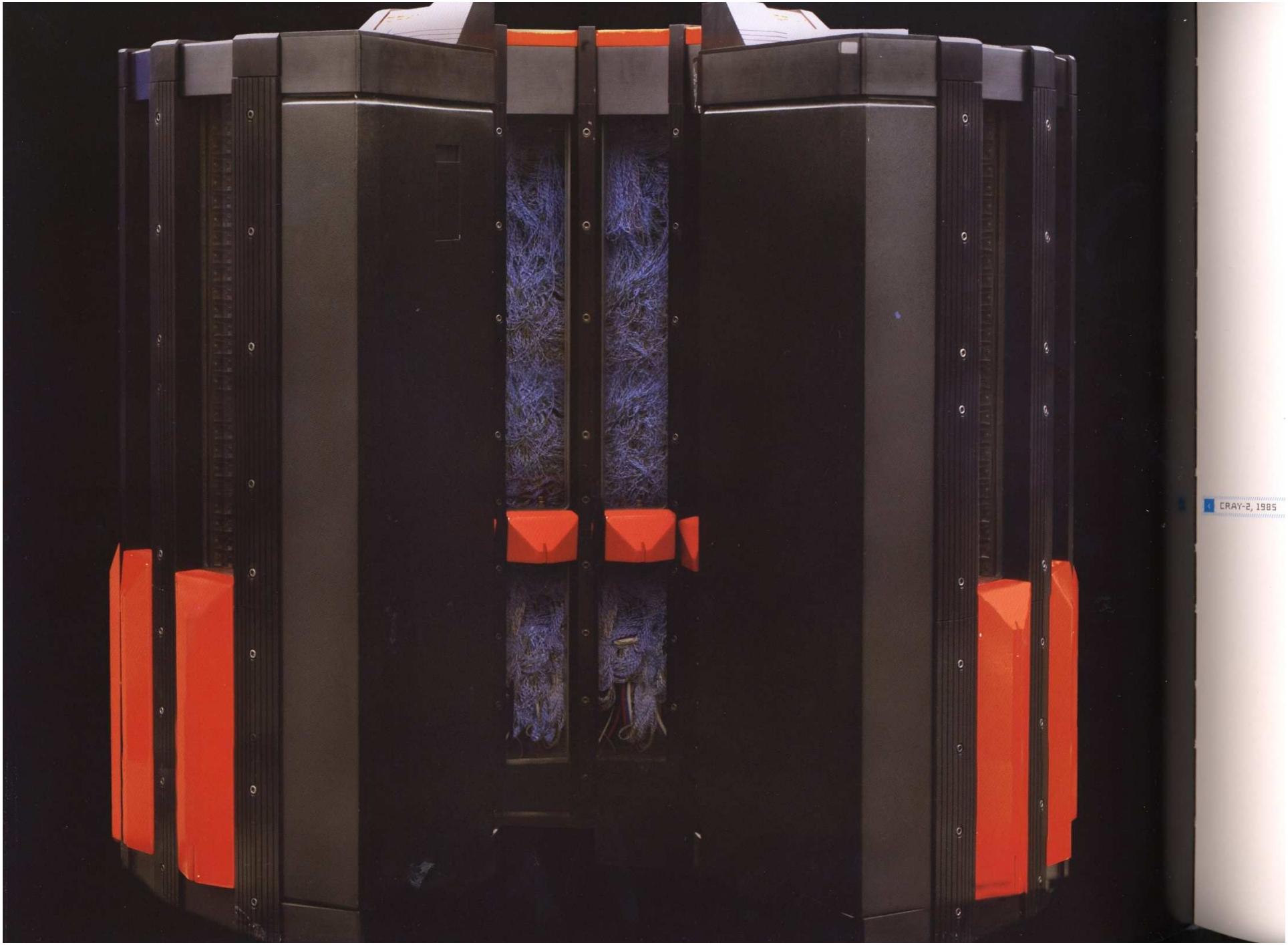
Anweisung				Karte Nr.
Name	Operation	Operand und Bemerkungen		
1 8	10 14	20 25 30 35 40 45 50 55 60 65 70		78 80
				Ø1Ø
				Ø2Ø
				Ø3Ø
				Ø4Ø
				Ø5Ø
				Ø6Ø
				Ø7Ø
				Ø8Ø
				Ø9Ø
				1ØØ
				11Ø
				12Ø
				13Ø
				14Ø
				15Ø
				16Ø
				17Ø
				18Ø
				19Ø
				2ØØ
1 8	10 14	20 25 30 35 40 45 50 55 60 65 70		78 80

IBM Form 76 682-2

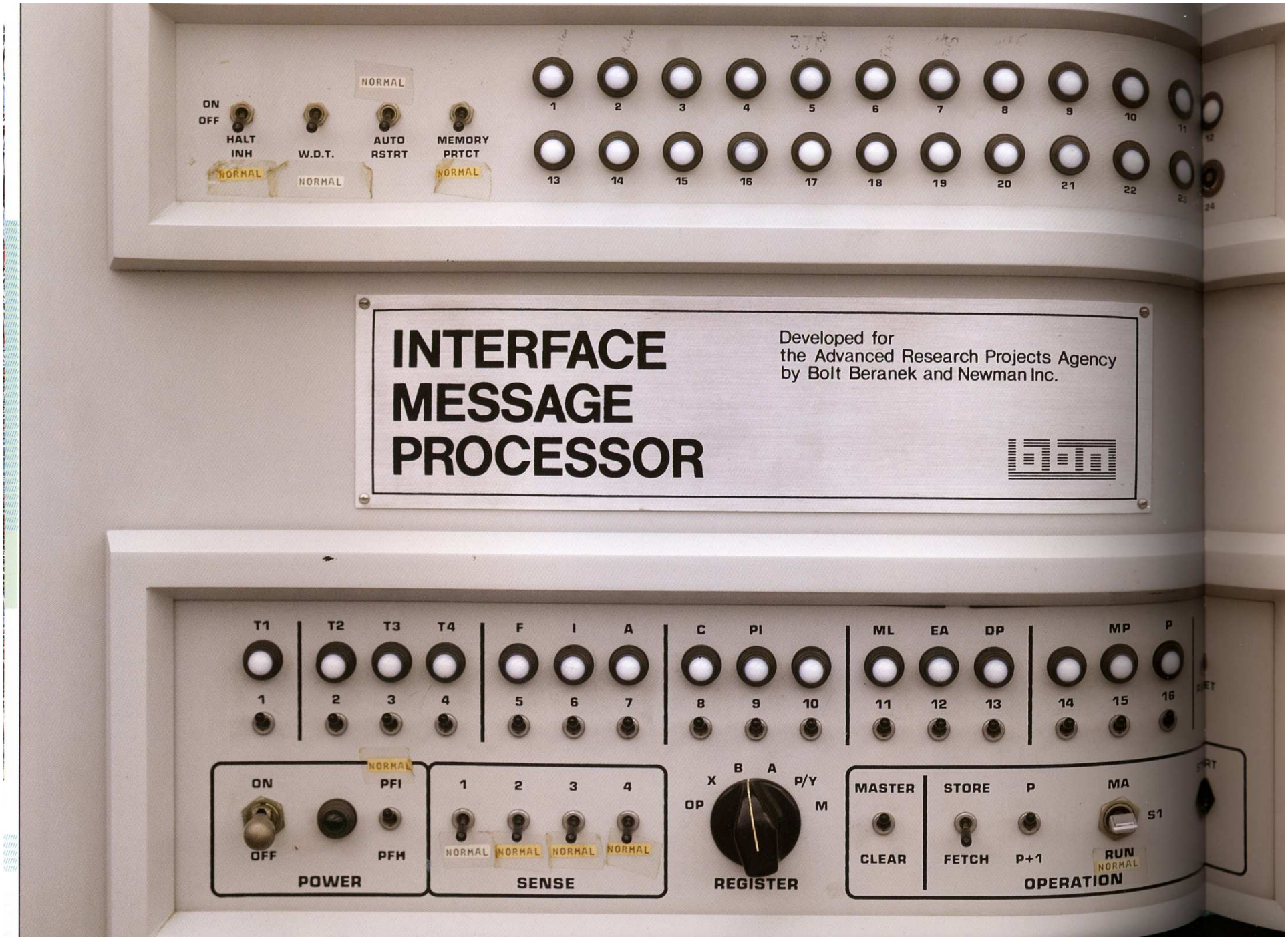



ZURCH IT'S A SYSTEM 3
IBM 3700

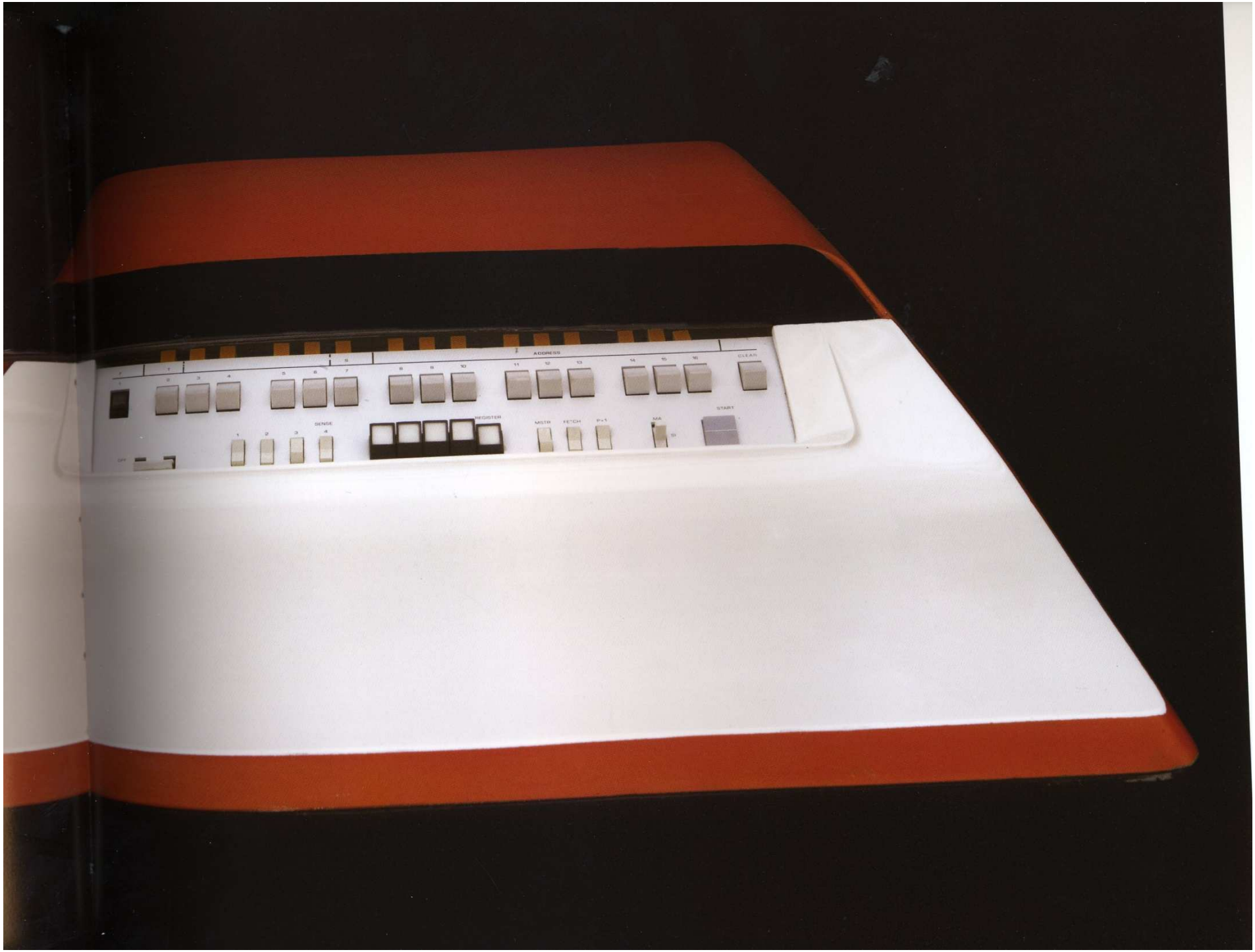
IBM Application System/400™ Family



CRAY-2, 1985

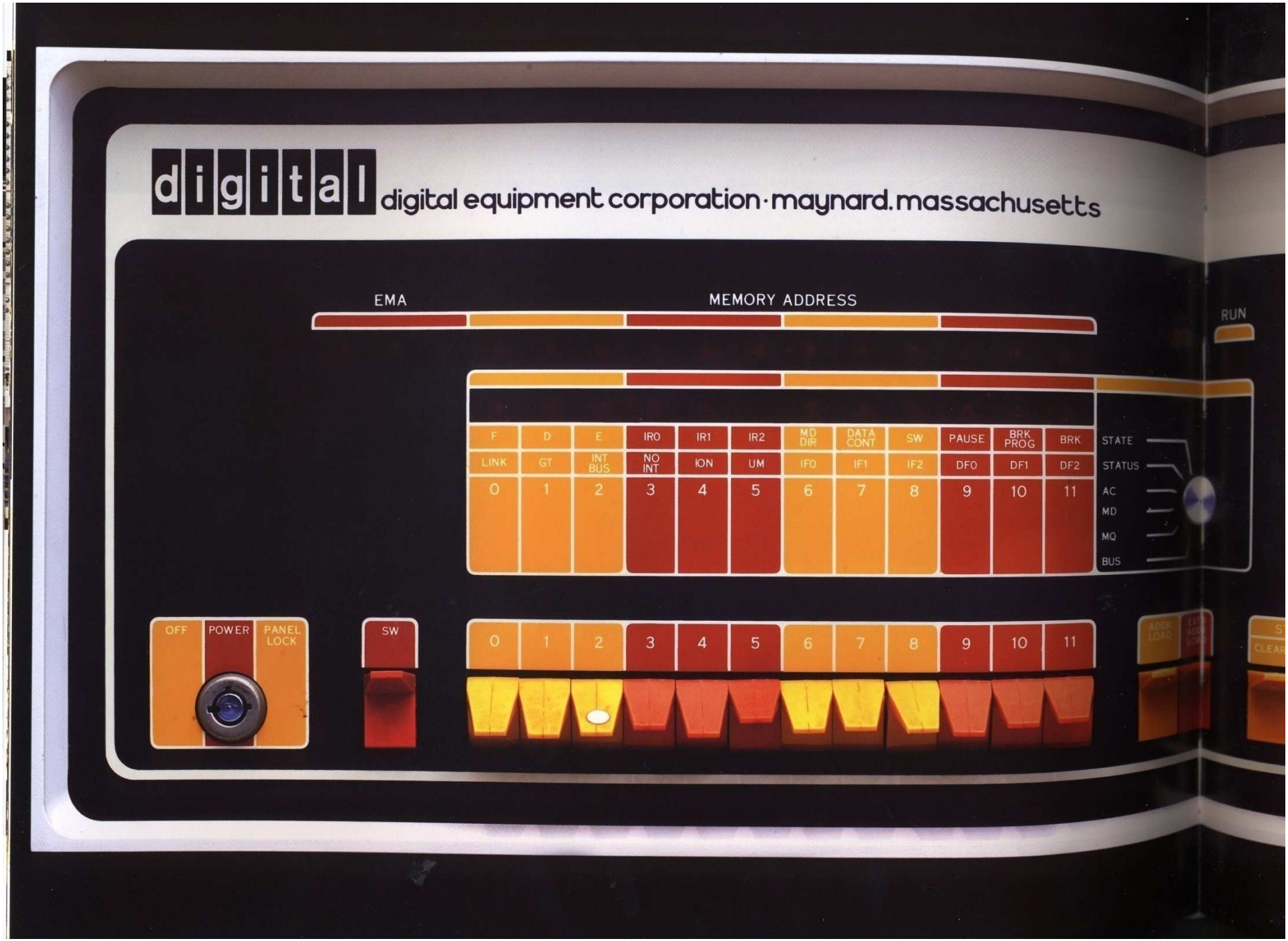

ON
OFF
HALT
INH
NORMAL
W.D.T.
NORMAL
AUTO
RSTRT
NORMAL
MEMORY
PRTCT
NORMAL
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
INTERFACE
MESSAGE
PROCESSOR
Developed for
the Advanced Research Projects Agency
by Bolt Beranek and Newman Inc.
T1 T2 T3 T4 F I A C PI ML EA DP MP P
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
ON
OFF
NORMAL
PFI
PFH
POWER
1 2 3 4
NORMAL NORMAL NORMAL NORMAL
SENSE
X B A P/Y
OP M
REGISTER
MASTER
CLEAR
STORE
FETCH
P
P+1
MA
S1
RUN
NORMAL
OPERATION

CONNEXION
FIN
Répétition
Loupe
Sommaire
Guide
Annulation
Correction
Retour
Suite
ENVOI
1 2 3
4 5 6
7 8 9
* 0 #
, . ' ; - : ?
A B C D E F G H I J
K L M N O P Q R S
T U V W X Y Z
Espace
TELIC
Alcatel


ADDRESS
CLEAR
SENSE
REGISTER
MSTR
FETCH
P+1
MA
START

APPLE
COMPUTER

apple II
RESET
ESC
REPT
RETURN
CTRL
BELL
SHIFT
SHIFT
POWER


digital
digital equipment corporation · maynard. massachusetts
EMA
MEMORY ADDRESS
RUN
F
D
E
IR0
IR1
IR2
MD DIR
DATA CONT
SW
PAUSE
BRK PROG
BRK
LINK
GT
INT BUS
NO INT
ION
UM
IFO
IF1
IF2
DFO
DF1
DF2
0
1
2
3
4
5
6
7
8
9
10
11
STATE
STATUS
AC
MD
MQ
BUS
OFF
POWER
PANEL LOCK
SW
ADDR LOAD
CLEAR

Takeaway thoughts…

- Sources of computer science (loom, census, astronomy, code breaking, bombs, etc.)
- Important ideas (programmable computer, stored program, conditional branching, etc.)
- Nothing is arbitrary (80 column terminals, 8-bit bytes, 32-bit words, bug, core dump, etc.)
- IBM/360 very influential
- Whole world outside of IBM/360 thinking