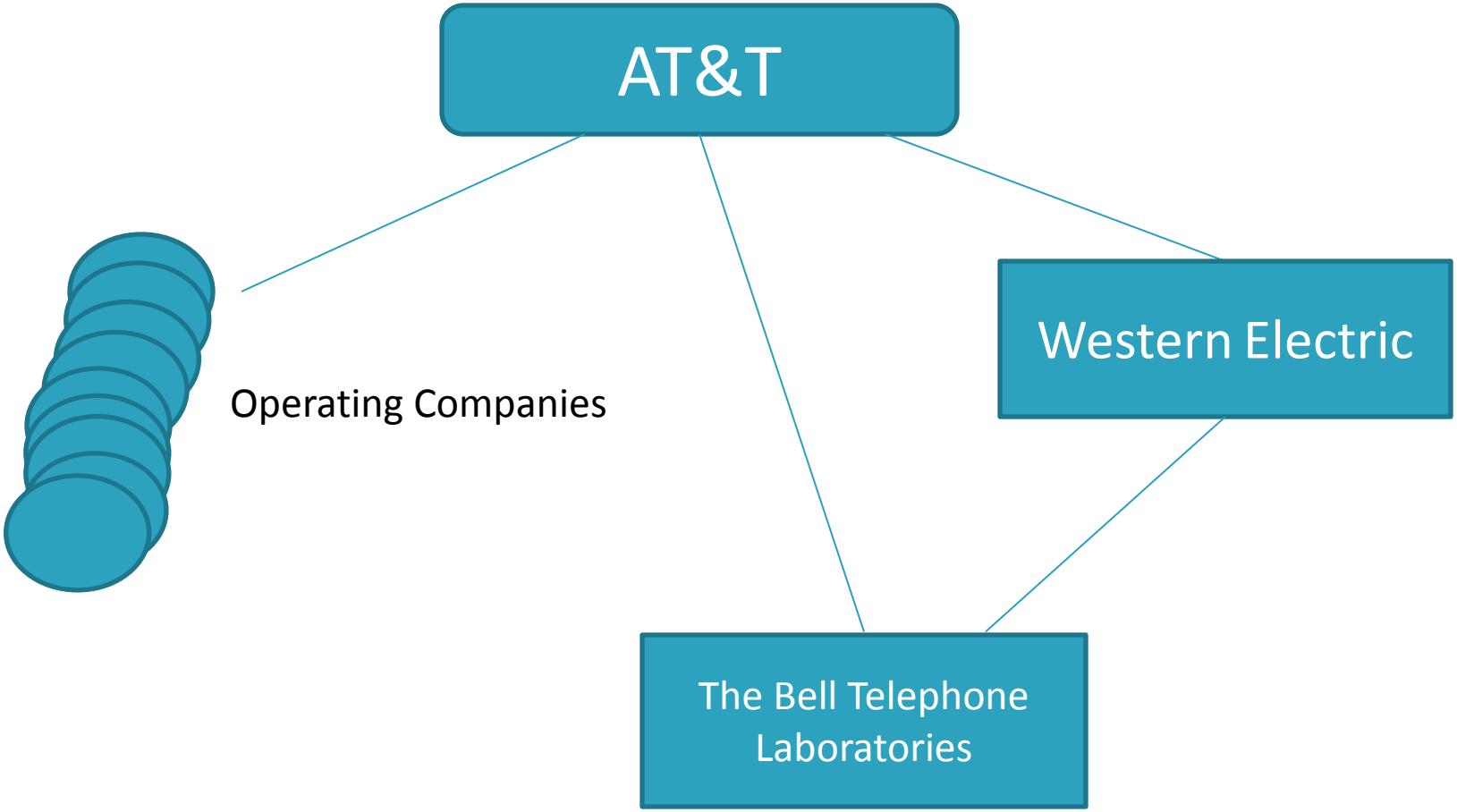
The Old Bell Labs

The Big Picture



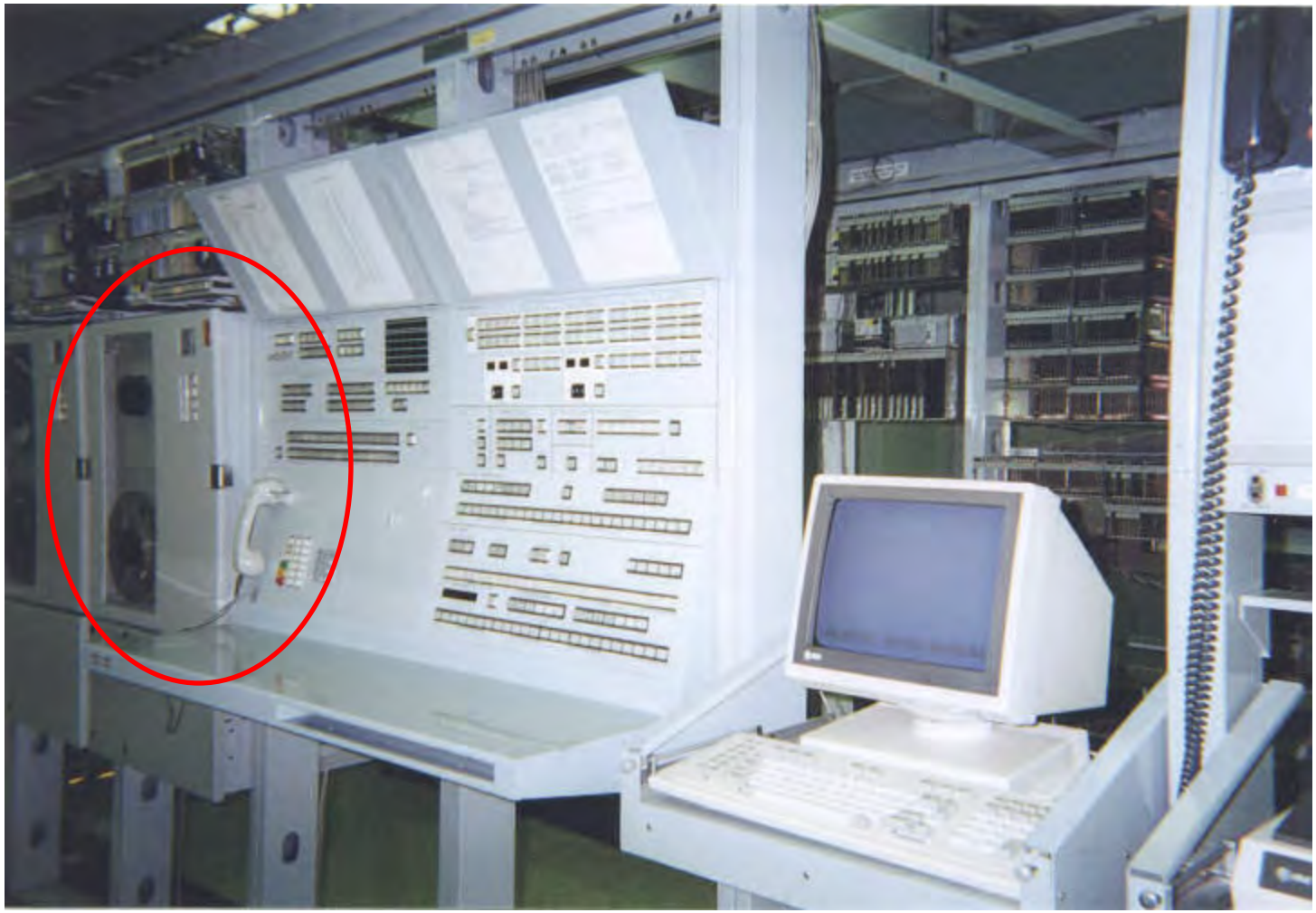
Bell Labs Locations I Remember

- Murry Hill, NJ – Research
- Homdel, NJ – Applied Research and Development
- Whippany, NJ – Military
- Naperville, IL – Switching System Development
- Columbus, OH – Telephone Handsets
- Denver, CO – PBX
- Allentown, PA – Cable and transmission
- Nothing in Silicon Valley!

Naperville Illinois (Indian Hill)

My Office

1A ESS – Master Control

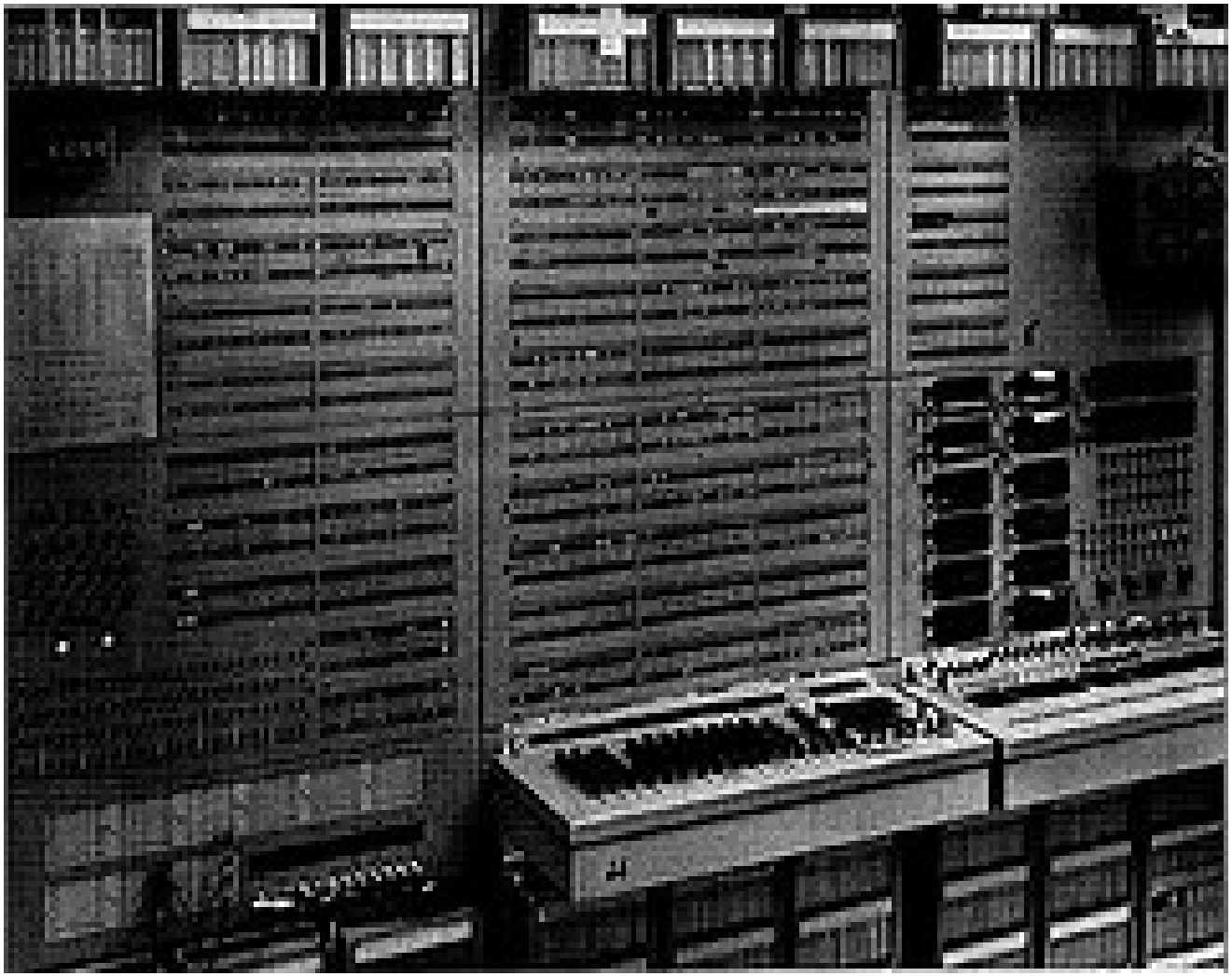


Weird and Wonderful Terminology

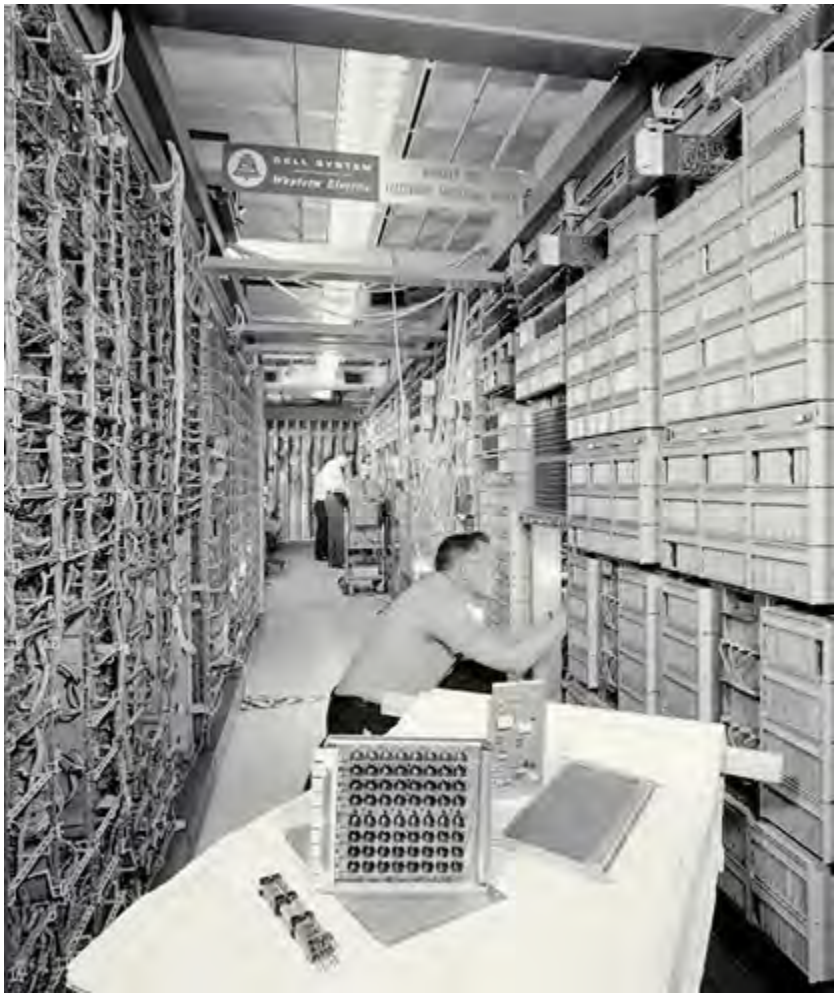
Bell Labs	The Outside World
Central Control	CPU
Program Store	Main Memory (ROM)
Call Store	Main Memory (RAM)
Message Store	Disk Memory
Master Control	Console
Hopper	A Queue
Register	Data Structure
PIGS	Compile and Build
CICS	Data Base

Ferrite Sheet Call Store (RAM)

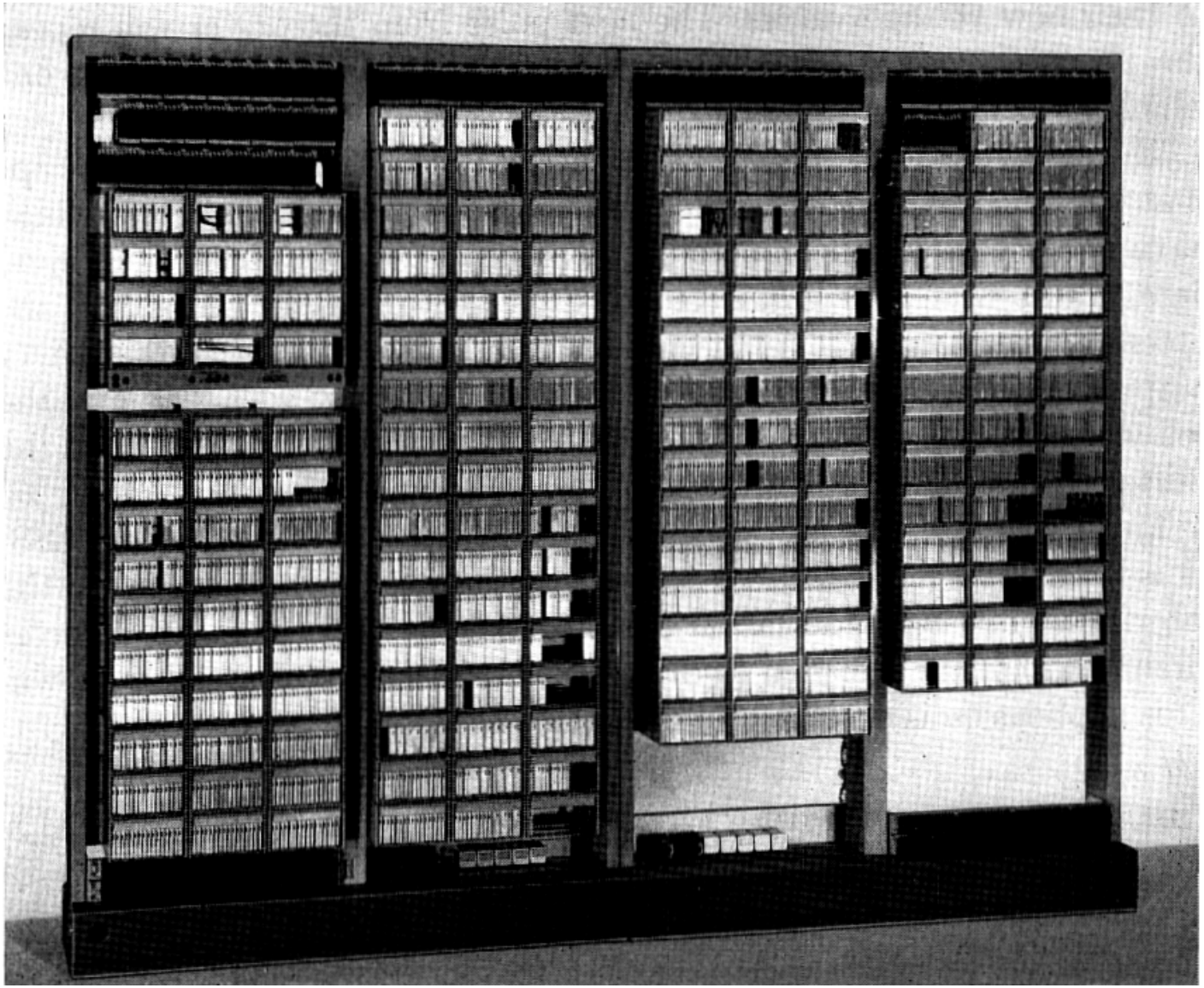
1ESS Test Panel (similar to ADF)



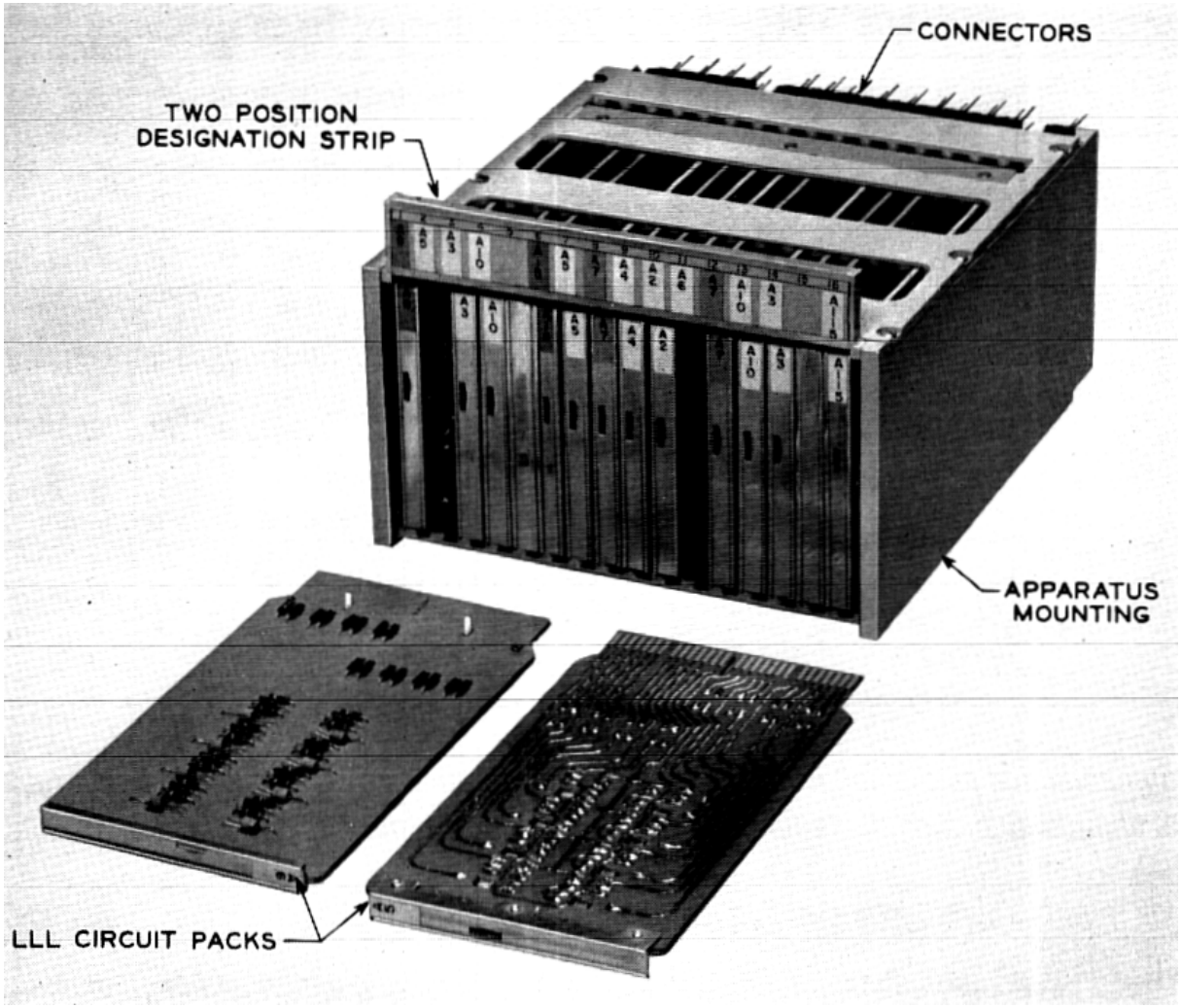
A Small Part of a Typical Central Office



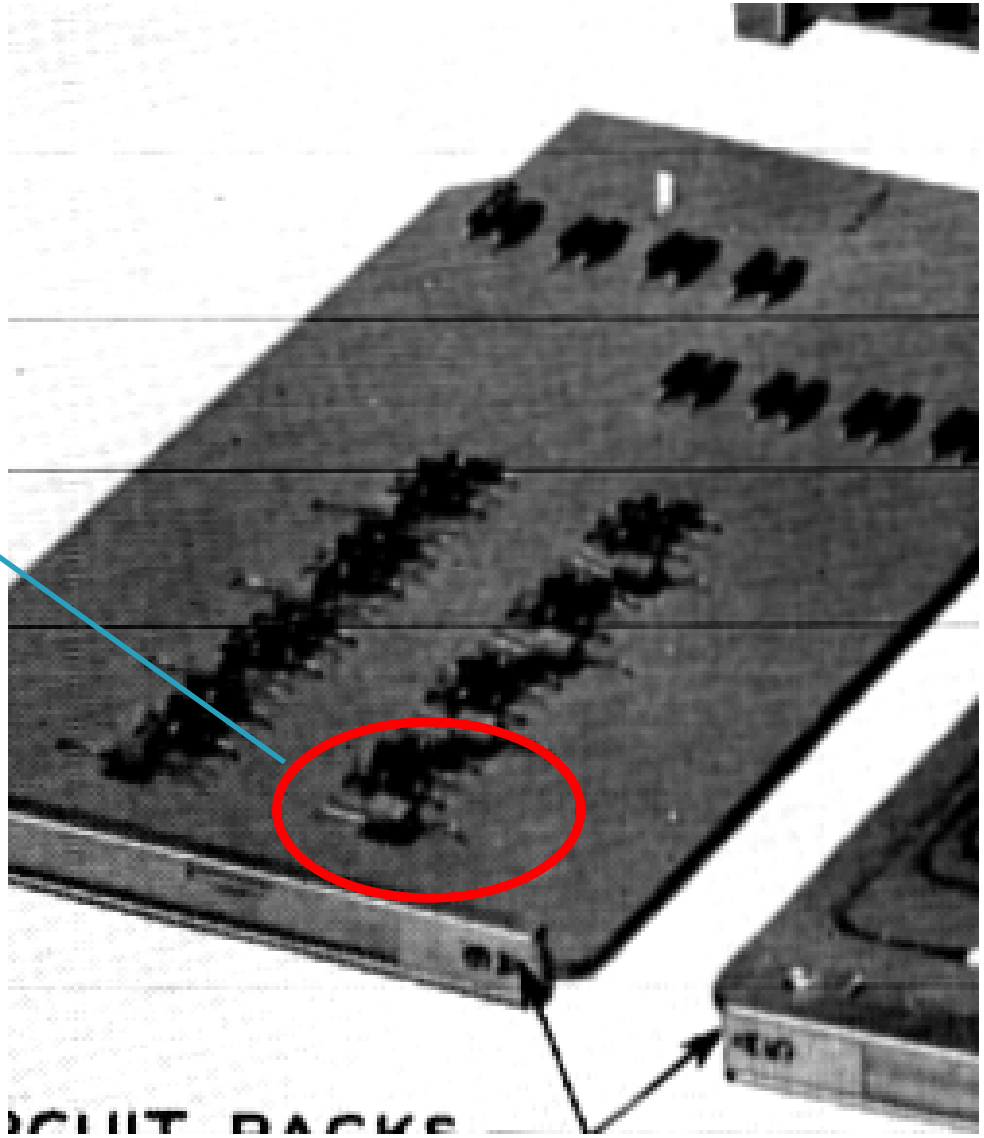
1ESS Central Control (CPU)



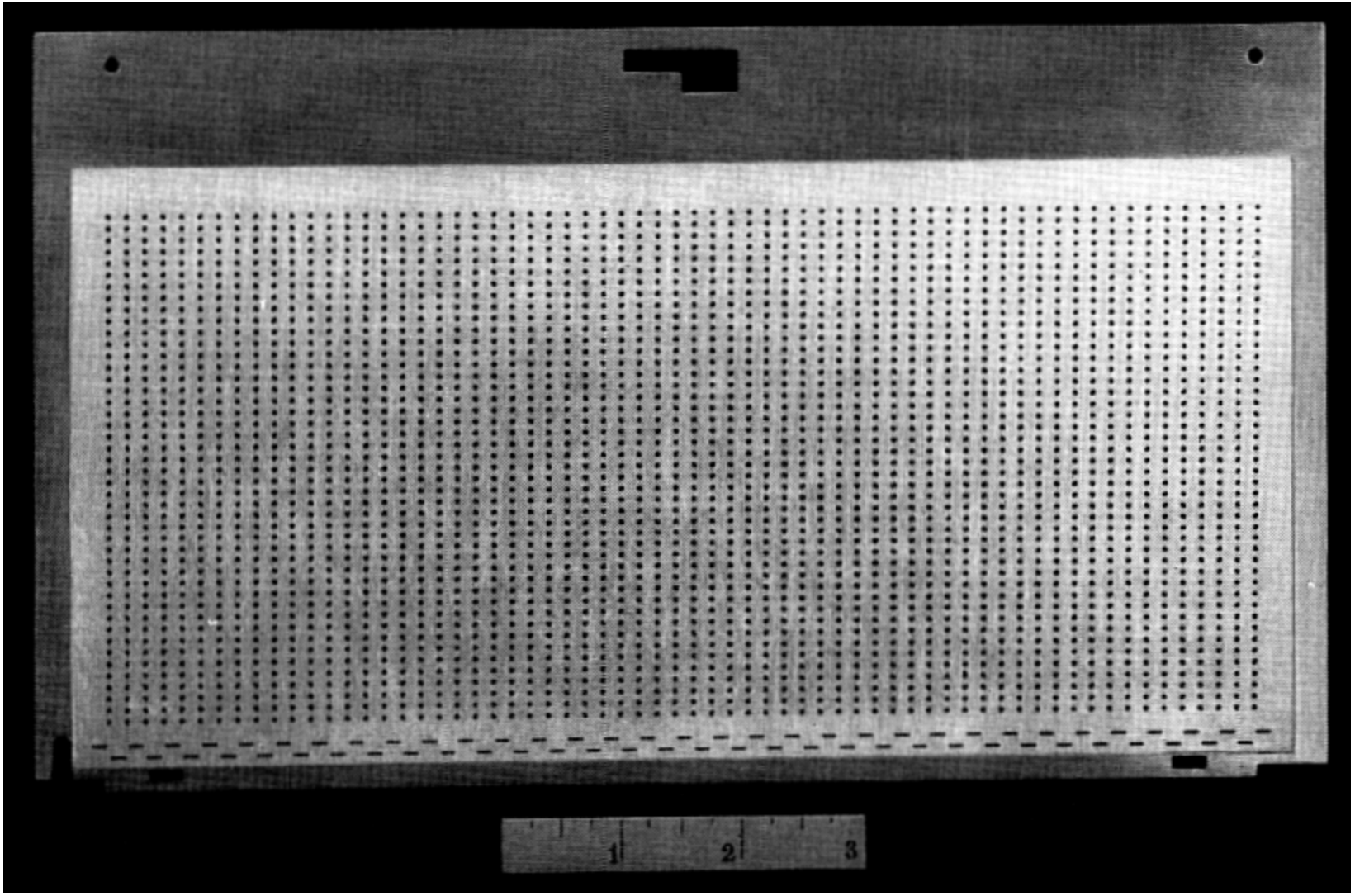
Basic Technology



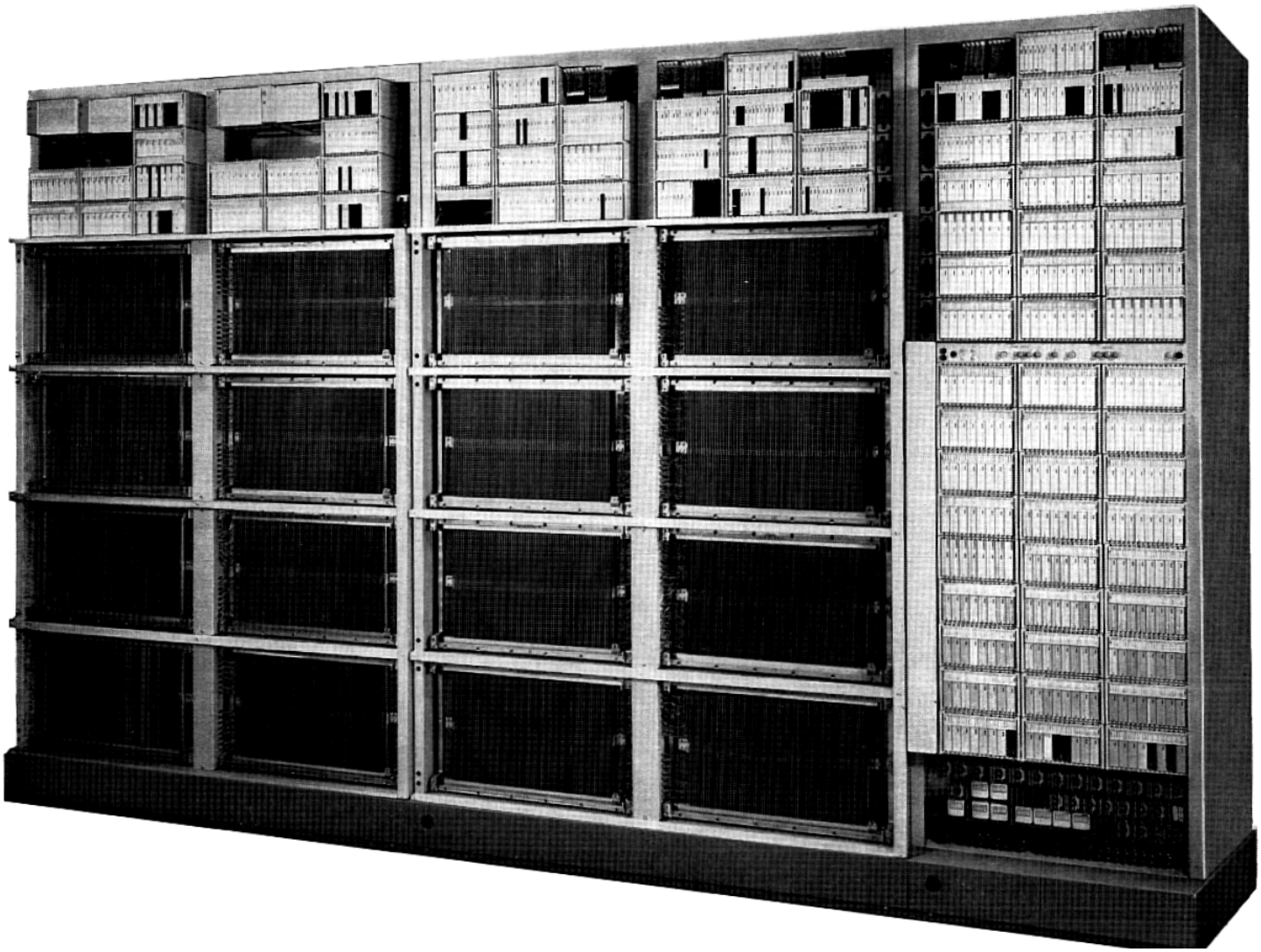
Germanium Transistors!



Program Store Card

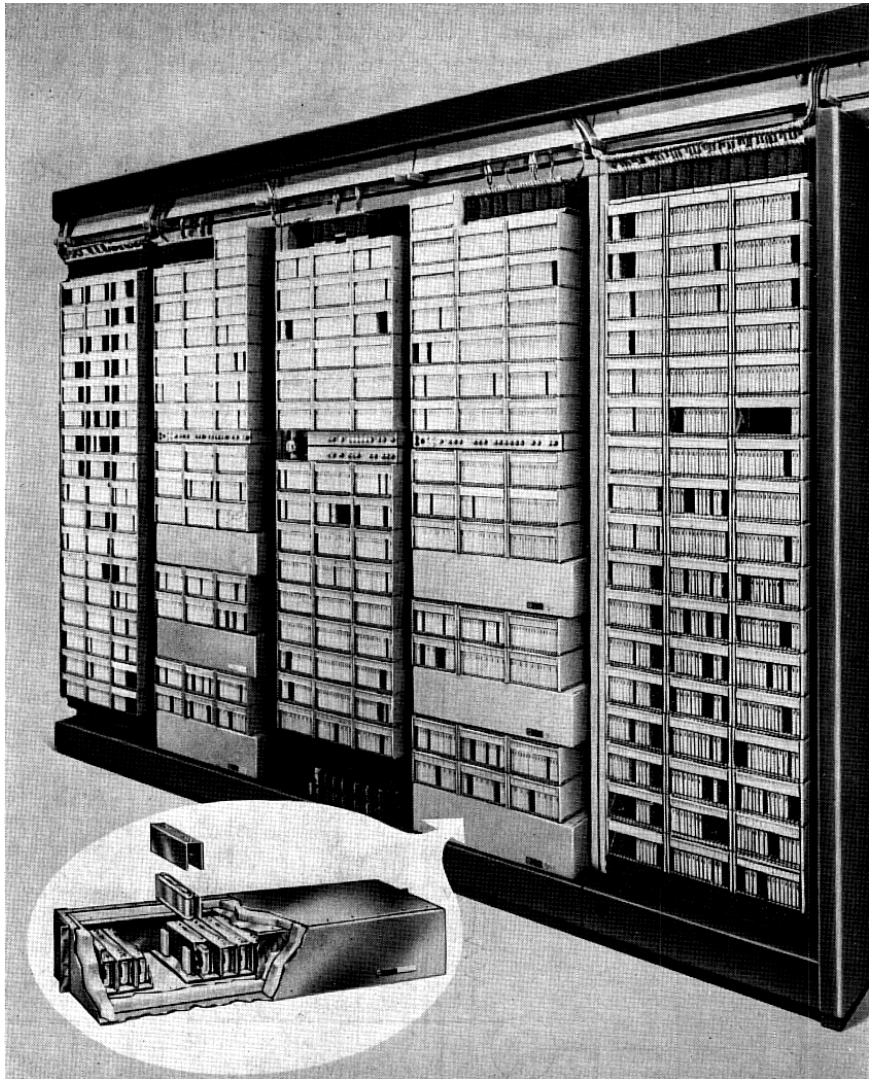


Program Store (128K 44bit words)

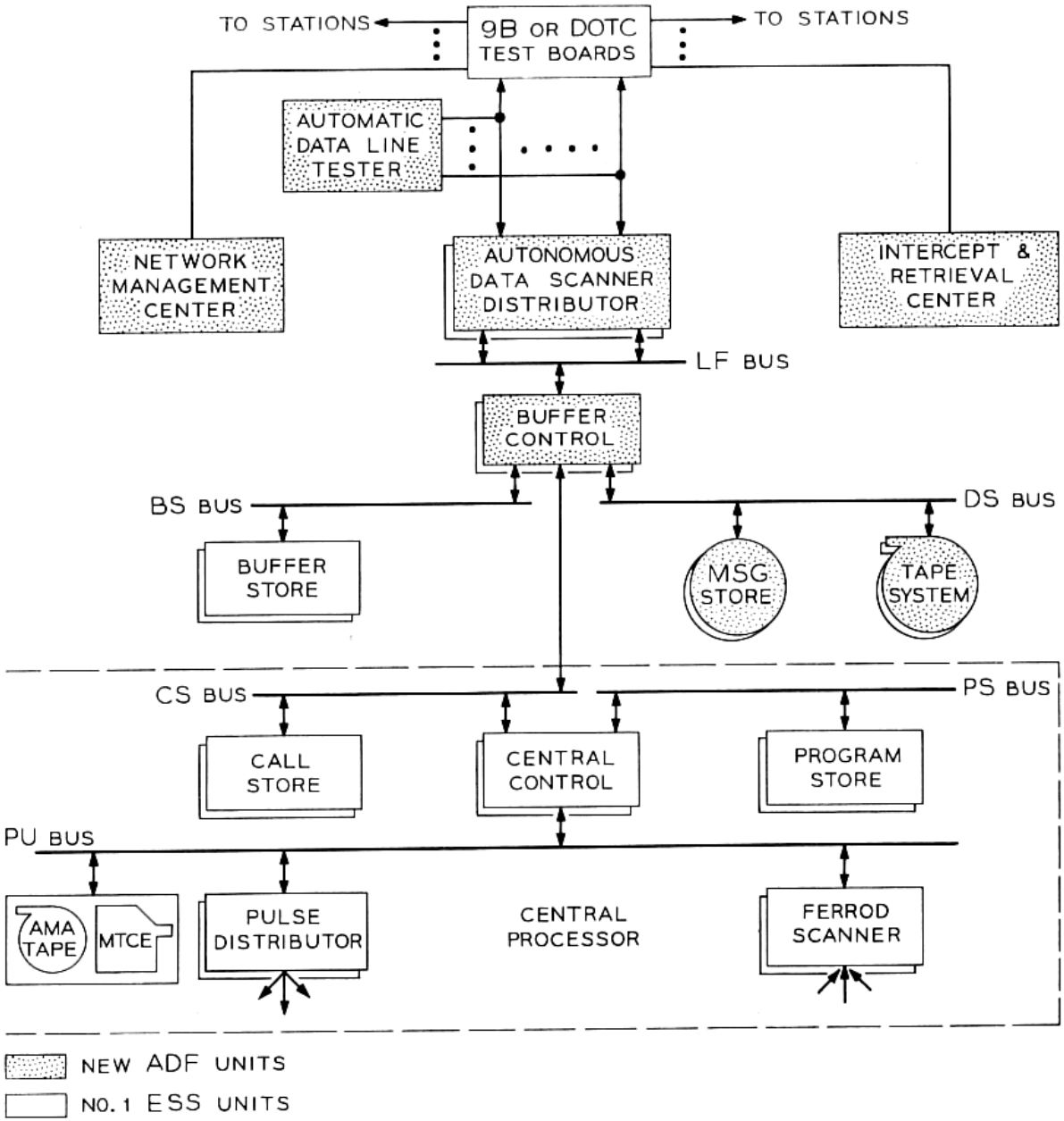


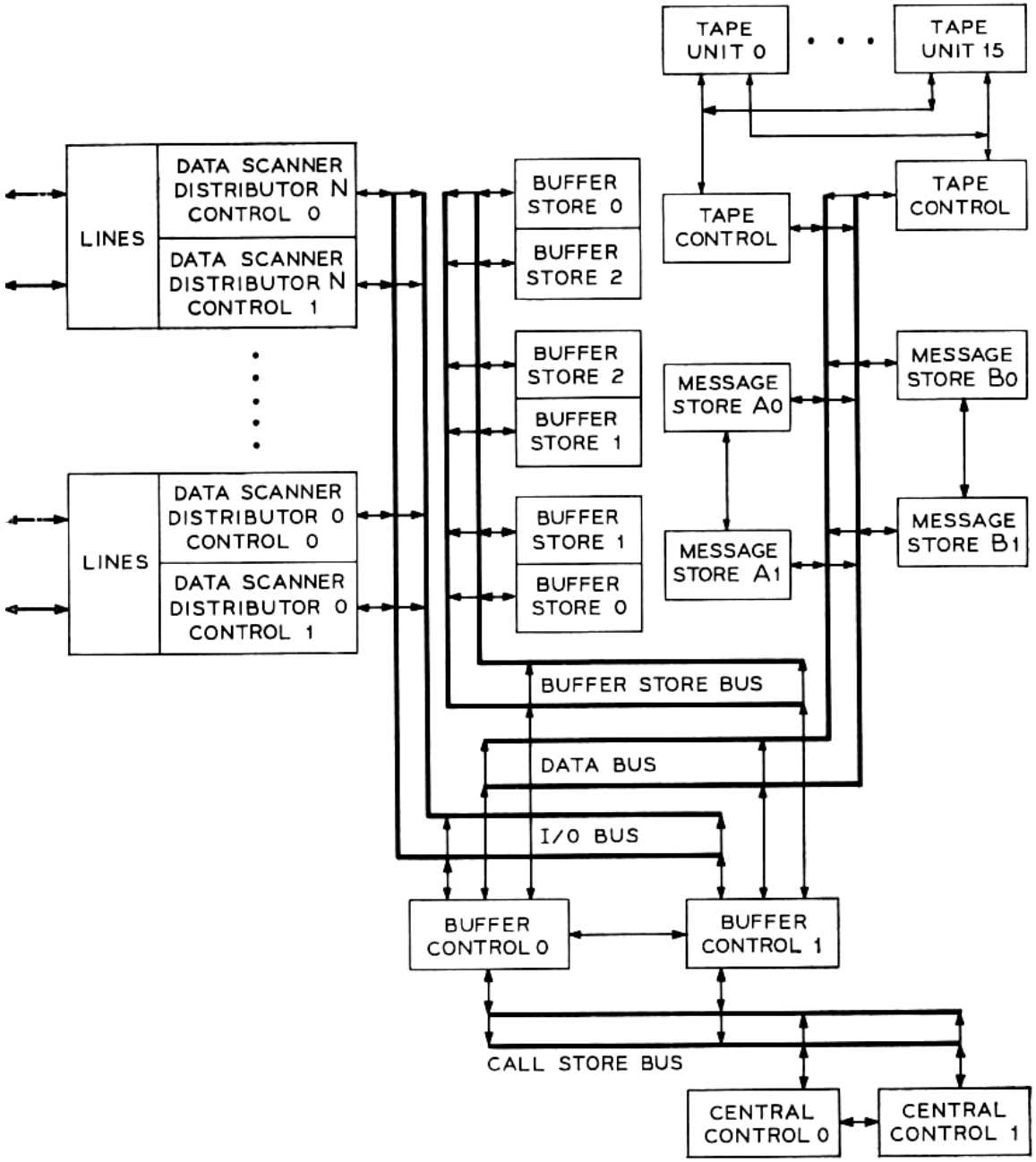
Program Store Writer

DCAD

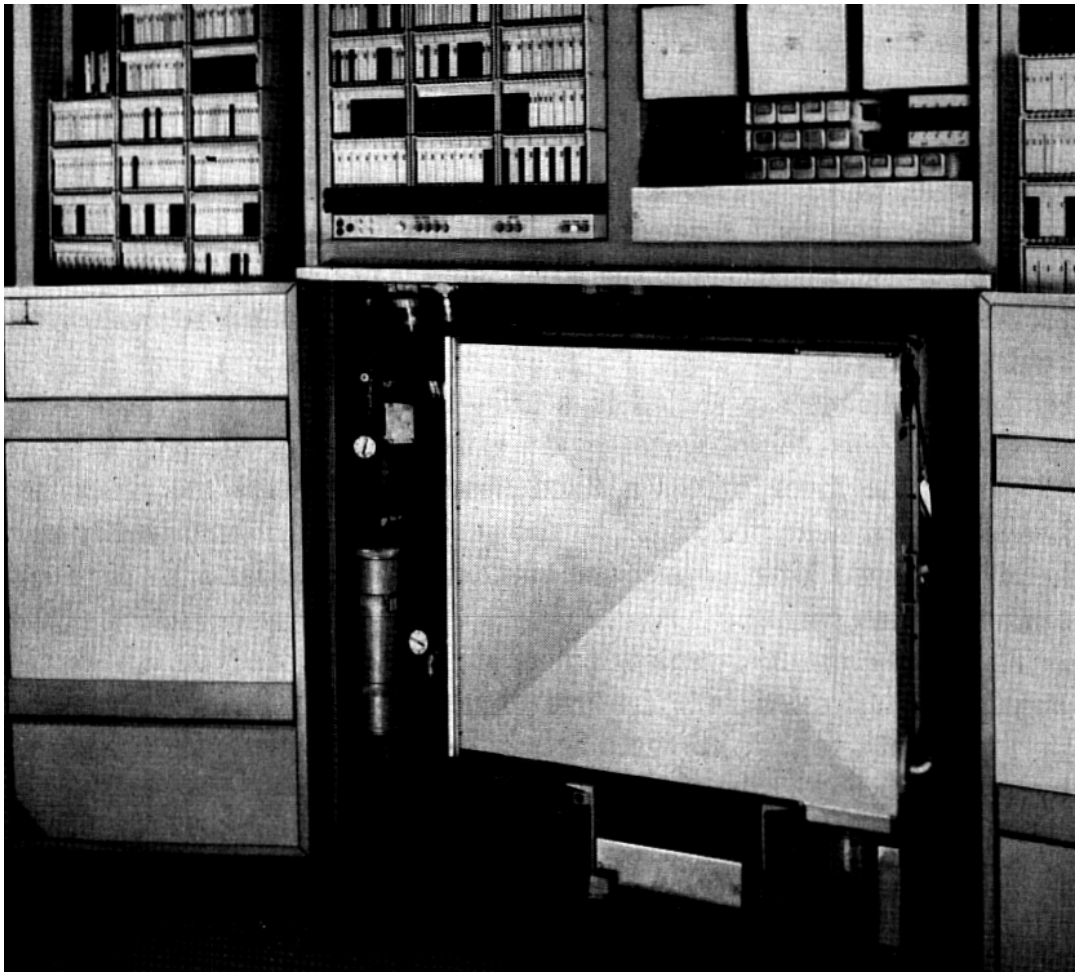


#1ESS-ADF


TO STATIONS
9B OR DOTC TEST BOARDS
TO STATIONS
AUTOMATIC DATA LINE TESTER
NETWORK MANAGEMENT CENTER
AUTONOMOUS DATA SCANNER DISTRIBUTOR
INTERCEPT & RETRIEVAL CENTER
LF BUS
BUFFER CONTROL
BS BUS
DS BUS
BUFFER STORE
MSG STORE
TAPE SYSTEM
CS BUS
PS BUS
CALL STORE
CENTRAL CONTROL
PROGRAM STORE
PU BUS
AMA TAPE
MTCE
PULSE DISTRIBUTOR
CENTRAL PROCESSOR
FERROD SCANNER
NEW ADF UNITS
NO. 1 ESS UNITS


TAPE UNIT 0
TAPE UNIT 15
LINES
DATA SCANNER DISTRIBUTOR N CONTROL 0
DATA SCANNER DISTRIBUTOR N CONTROL 1
BUFFER STORE 0
BUFFER STORE 2
TAPE CONTROL
TAPE CONTROL
BUFFER STORE 2
BUFFER STORE 1
MESSAGE STORE A0
MESSAGE STORE B0
LINES
DATA SCANNER DISTRIBUTOR 0 CONTROL 0
DATA SCANNER DISTRIBUTOR 0 CONTROL 1
BUFFER STORE 1
BUFFER STORE 0
MESSAGE STORE A1
MESSAGE STORE B1
BUFFER STORE BUS
DATA BUS
I/O BUS
BUFFER CONTROL 0
BUFFER CONTROL 1
CALL STORE BUS
CENTRAL CONTROL 0
CENTRAL CONTROL 1

Message Store



The Big Plusses of BTL

- Paid for my Master’s Degree!
- Many, many very smart people!
- Open Stockroom!!
- Really cared about the employees.
- Great Library
- Almost unlimited resources

The Negatives

- Isolated from the wider technology world
- Everything came from Western Electric
- Slow to adapt the very new technologies
- Managers rose up based on technological prowess not management skills
- Sometimes very wasteful of resources
- After 1984 breakup of AT&T began to struggle to stay afloat.

The Bottom Line

A wonderful place to work, but will probably never happen again