

11/74 MULTIPROCESSOR  
MECHANICAL DESIGN REVIEW

PLACE: LARGE MEMORY CONFERENCE ROOM ML21-2

DATE: MONDAY, JANUARY 30 1978

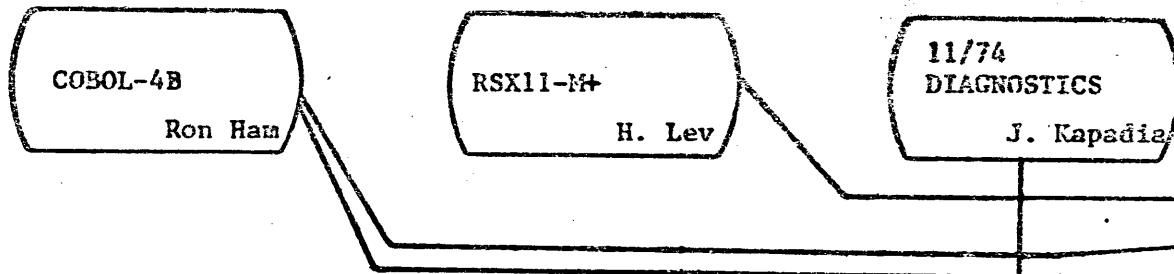
TIME: 1:30 P.M.

AGENDA

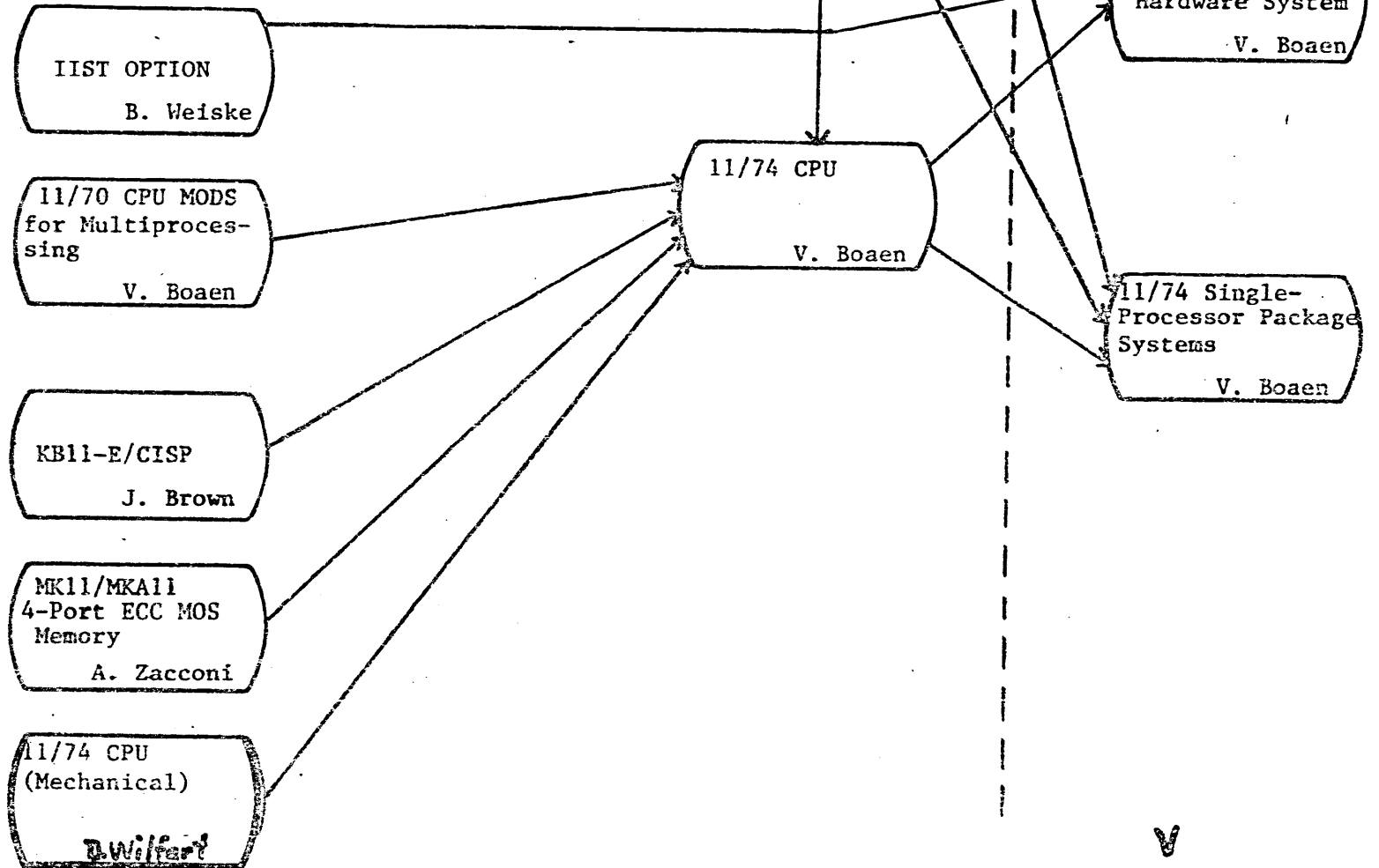
- 1:30 - 1:45 WHAT IS THE 11/74 MULTIPROCESSOR  
BY VERELL BOAEN
- 1:45 - 2:15 PRESENTATION OF 11/74 PACKAGING  
BY DICK WILFERT
- 2:15 - 3:30 REVIEW OF THE EQUIPMENT  
(2 - CPU MECHANICAL MOCKUP)

COFFEE AND DONUTS  
WILL BE SERVED

SOFTWARE PROJECTS



HARDWARE PROJECTS



SYSTEMS

## 11/74 - WHAT IS IT?

A REPLACEMENT FOR THE 11/70 WITH EXTENDED CAPABILITIES:

- ENHANCED REPAIRABILITY/MAINTAINABILITY VIA:

- NEW PACKAGING
- POWERED-UP REPAIRABILITY
- PERIPHERAL P.M. WITH SYSTEM UP
- CONSISTENT SYSTEM CONFIGURATIONS
- IMPROVED USER MODE DIAGNOSTICS
- RECONFIGURATION CONTROLS

- ENHANCED AVAILABILITY VIA:

- N +1 REDUNDANCY (INCLUDING CPU)
- WELL SPECIFIED ENVIRONMENT
- ON-LINE SYSTEM RECONFIGURATION

- ENHANCED PERFORMANCE:

- CISP - "HARD-WIRED" COMMERCIAL INSTRUCTIONS
- MULTI-PROCESSING - UP TO 3.6 x 11/70 SPEED

1. 11/74 SINGLE CPU

A. HINGED 1/2 LENGTH DOORS REPLACE POP PANELS USED ON 11/70

B. THE INITIALIZER PANEL IS THE SAME AS THE 11/70 USES.

2. 11/74 SINGLE CPU (DOORS OPEN) SHOWING THE MEMORY CONTROL PANELS AND INTERNAL CONSOLE.

A. BLANK PANELS WILL BE USED TO FILL ALL SPARE SLOTS WHERE THERE ARE NO MEMORY CONTROL PANELS.

WV.  
B. THE DOOR HAS A SPRING LOADED PIVOT RELEASE, TO ALLOW FOR REMOVAL OF DOOR. THERE ARE MAGNETS (TOP AND BOTTOM) TO HOLD DOOR CLOSED, AND THE KEY IN UNLOCKED POSITION IS USED AS A HANDLE TO OPEN DOOR. THE DOORS HAVE A BUILT IN STOP, SO THAT THEY DON'T HIT THE SIDE PANELS AND CHIP THE PAINT.

3. 11/74 MULTIPROCESSOR 2-CPU PACKAGED IN TWO DWHB'S

A. HINGED DOOR OVER THE BOOT/11ST PANEL, WITH A DUMMY PANEL ON THE RIGHT CPU.

B.

B. VANITY PANELS ON THE BOTTOM (POSSIBLE GROWTH FOR 11/60 CONSOLE)

C. WHEN DOORS ARE CLOSED THE CPU STATUS LED'S ON THE BOOT PANEL CAN BE SEEN.

4. FRONT VIEW OF 2-CPU SHOWING INTERNAL COMPONENTS.

- A. THE RIGHT HAND CPU IS A OPPOSITE HAND OF THE LEFT, LESS THE BOOT PANEL. BOTH PROCESSORS ARE ON THE OUTSIDE, AND MEMORIES INSIDE TO CUT DOWN ON LENGTH OF MEMORY CABLES.
- B. THE CONSOLE IS MOUNTED BEHIND THE DOOR TO ELIMINATE THE STATIC DISCHARGE PROBLEM.
- C. THERE IS ROOM FOR TWO MEMORY CONTROL UNITS, EACH BACKING UP A MEMORY CARD CAGE.
- D. FOR OPERATOR ACCESS  
THE DOOR OVER THE LEFT PROCESSOR HAS A LOCK WITH A DOUBLE PAWL, THAT ALSO LOCKS THE BOOT DOOR, AND USES THE SAME KEY THAT OPERATES THE INTERNAL CONSOLE. THIS KEY ALSO OPENS THE DOOR OVER THE PROCESSOR ON THE RIGHT HAND CAB.
- E. FOR FIELD SERVICE ACCESS  
THE TWO PRONG KEY USED TO OPEN THE BACK DOORS, WILL OPEN THE DOORS OVER THE MEMORY.
- F. THE BLOWER ON THE MEMORY CARD CAGES CAN BE REPLACED FROM THE FRONT, BY DISCONNECTING CONNECTOR AND REMOVING TWO SNAP FASTENERS.  
THERE IS SUFFICIENT SLACK ON THE CABLES FOR EXTENDER CARDS TO TEST MODULES, WHICH ALLOWS EASY REMOVAL OF BLOWER. (CABLE FOLD WILL BE RETAINED UNDER FRONT COVER, WHICH IS NECESSARY FOR AIRFLOW).

5. THIS CARD CAGE IS A NEW DESIGN TO ALLOW EASIER ACCESS OF MULTIPLE CABLES (36), AND BLOWER REPLACEMENT.

6. REAR VIEW OF 2-CPU SHOWING INTERNAL COMPONENTS

A. RUGGEDIZED UNIBUSS INTERFACE AT ZIF PANEL, POLARIZING IN PROCESS.

B. EACH BAY HAS A SEPERATE 866 POWER CONTROLLER (WARNING STICKERS ARE DISPLAYED ON THE 866 FRONT PANELS AND ON THE FRONT OF THE "F" BOX. (PWR CONTR'S ARE REAR MOUNTED).

C. THERE ARE (2) H7750 BATTERY BACKUPS FOR THE (2) H7420'S POWERING UP THE MEMORY CARD CAGES. THE H7750'S ARE MOUNTED TO A SWINGOUT FRAME FOR ACCESS TO MEMORY BACKPLANE.

D. IN CASE OF EMERGENCY EACH MEMORY BOX HAS A 870 PWR CONTROLLER, SO THAT THEY CAN BE SHUT DOWN INDIVIDUALLY, ALLOWING THE OTHER MEMORY TO STILL FUNCTION. (H7420'S HAVE BREAKERS BUT ARE DIFFICULT TO REACH). CAUTION LABELS SHOW RELATIONSHIP OF MEMORY PWR SUPPLIES TO 870 POWER CONTROLLERS.

E. CABLE TROUGHS RUN FROM THE CENTER AIR BAFFLE TO THE CAB INTERFACE TO HANDLE CAB TO CAB MEMORY CABLES.

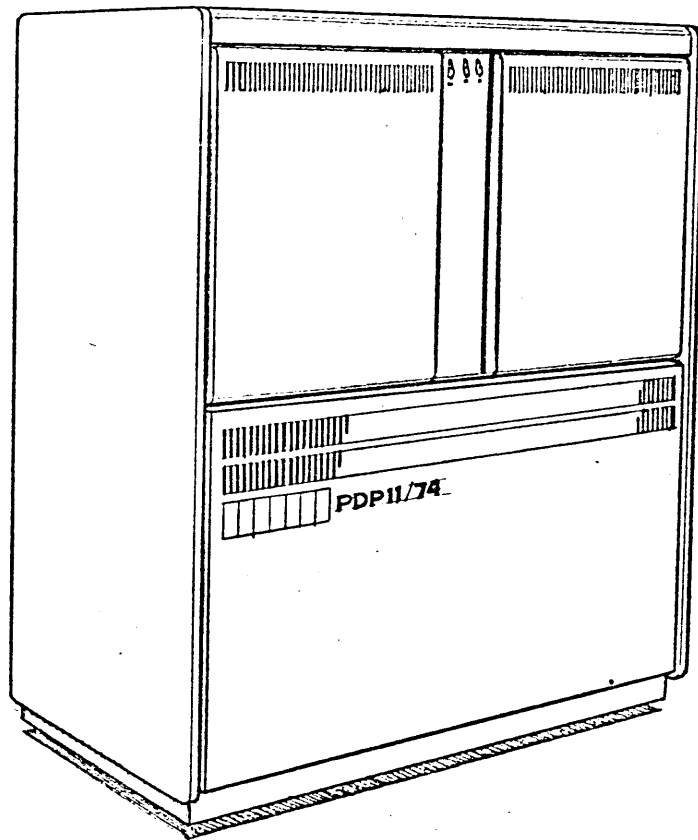
F. THE RIGHT HAND CPU HAS SMALL VERTICAL ON OUTSIDE CORNERS TO ALLOW PROCESSOR SUPPLIES TO BE MOUNTED. THIS CAB HAS PASSED BOTH SHOCK AND VIBRATION TESTS (REPORTS ARE AVAILABLE).

7. FRAME ASSY DOUBLE WIDTH HI-BOY

A. SMALL VERTICALS ON OUTSIDE CORNERS

B. GUSSETED VERTICAL TOP AND BOTTOM  
TO INTERFACE WITH CROSS MEMBER

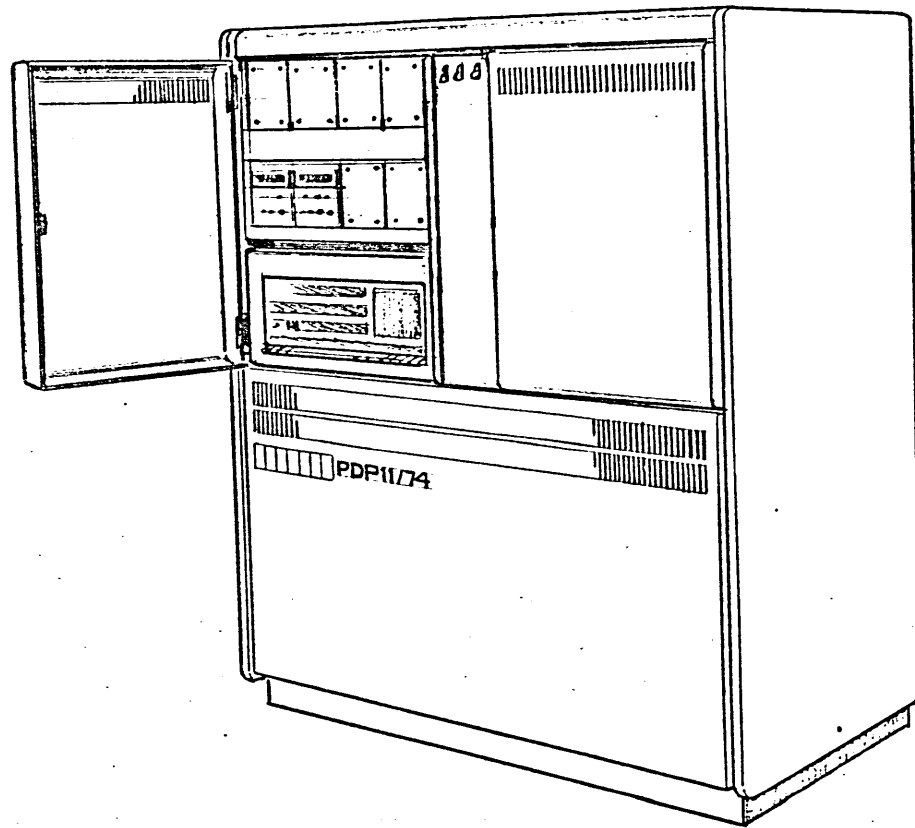
C. RE-DESIGNED THE STABILIZER INTERFACE.



**digital** INDUSTRIAL  
DESIGN

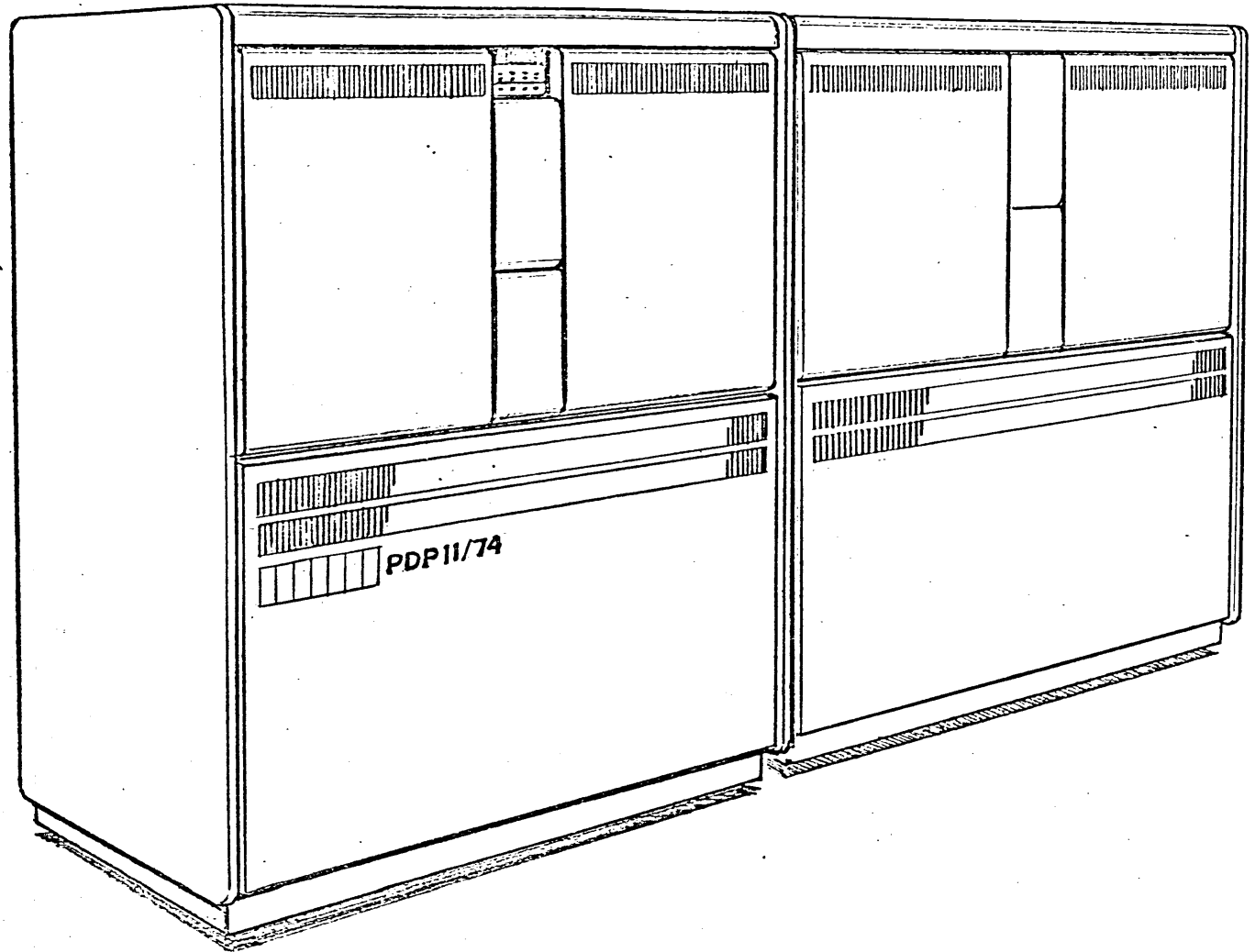
CPU ASSEMBLY



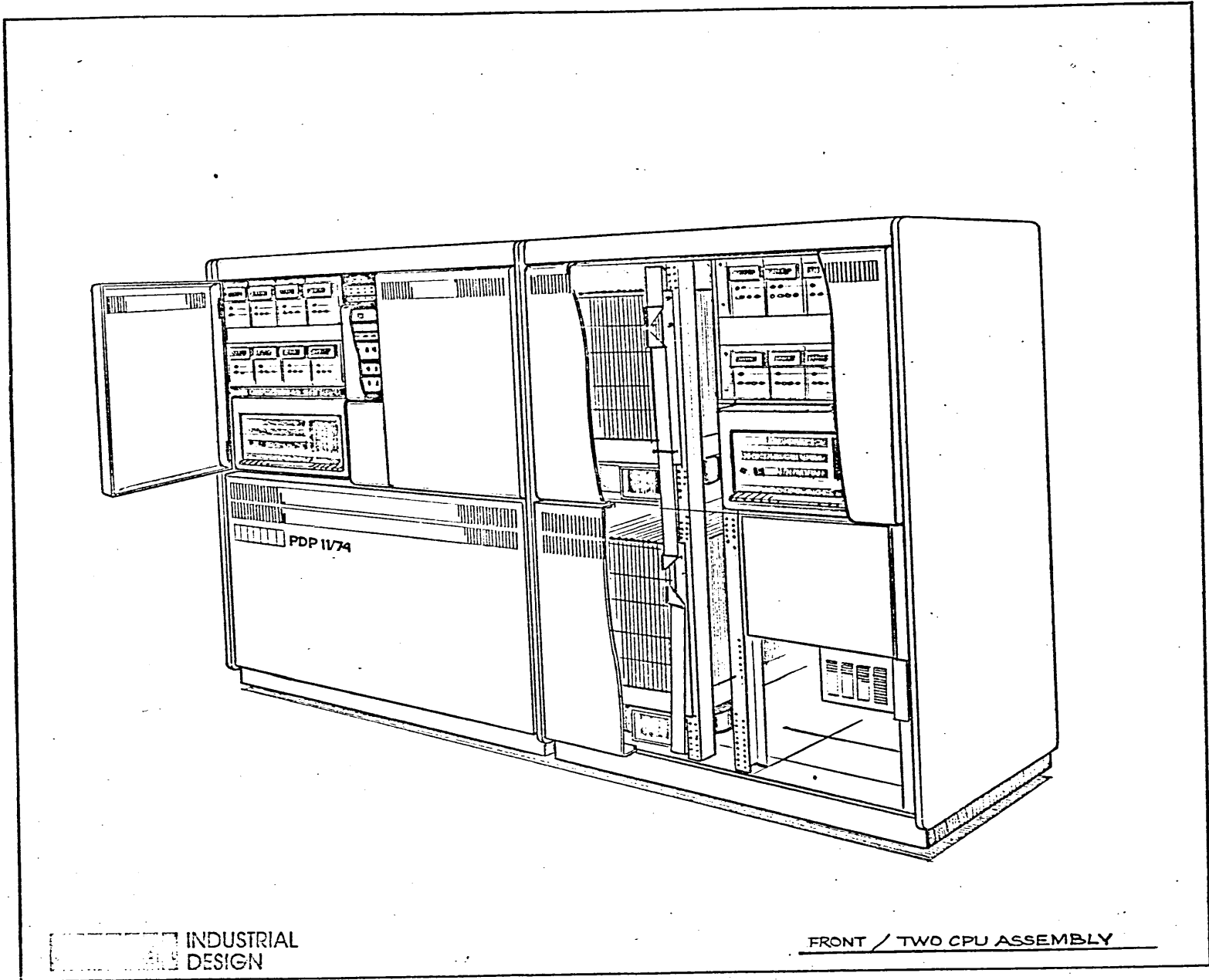


digital INDUSTRIAL  
DESIGN

CONCEALED/RECESSED  
CPU ASSEMBLY

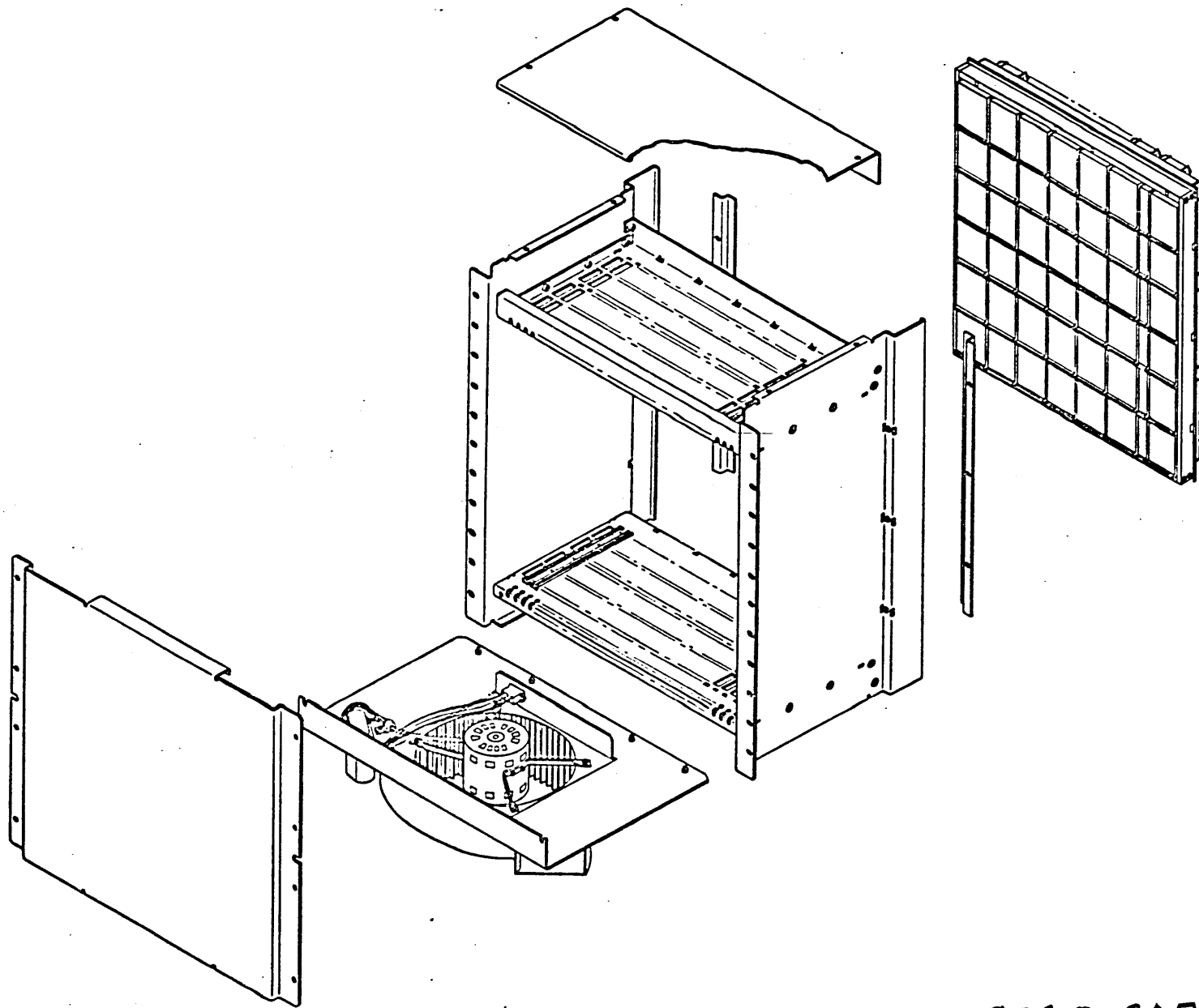


PDP 11/74

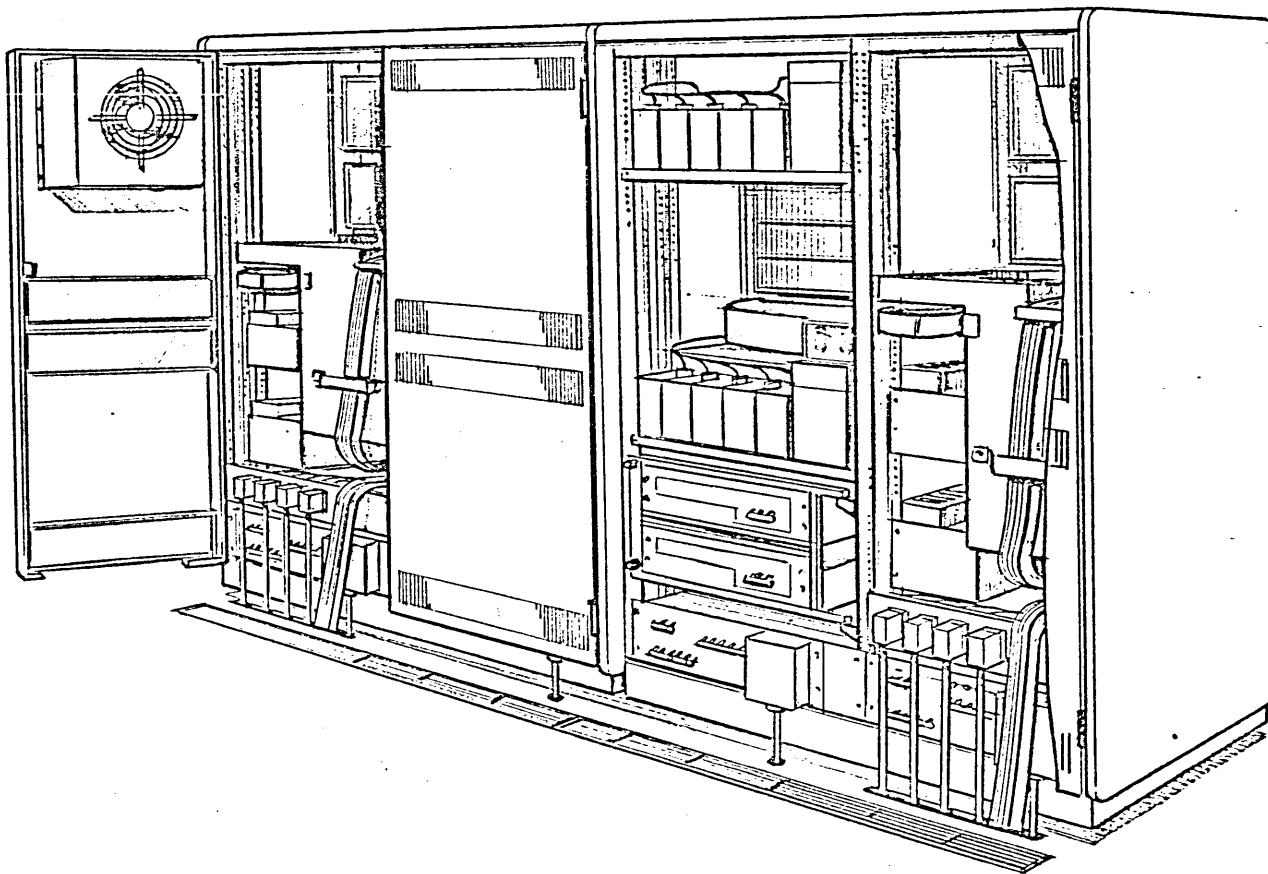


INDUSTRIAL  
DESIGN

FRONT / TWO CPU ASSEMBLY

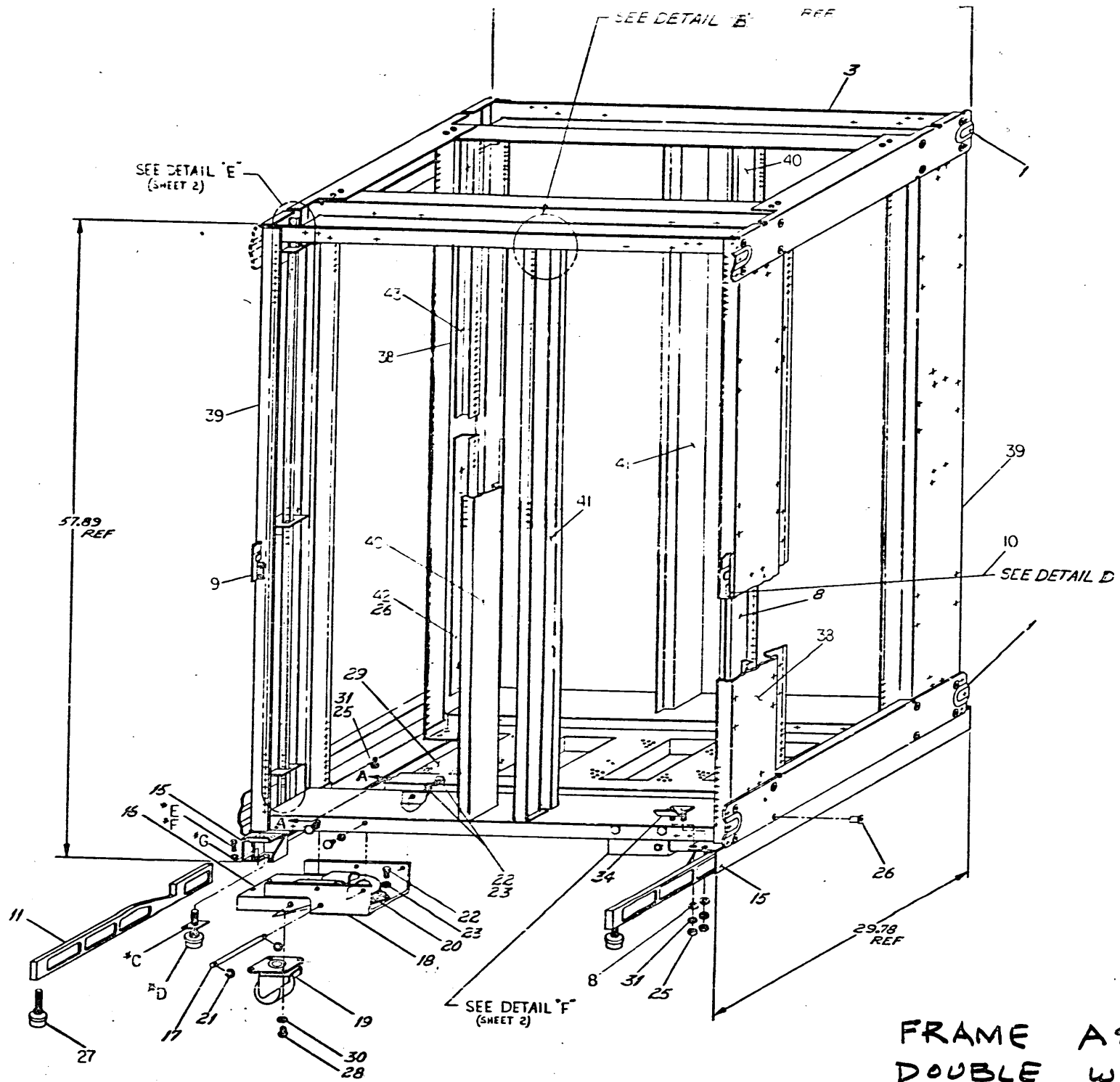


H-9060 CARD CAGE

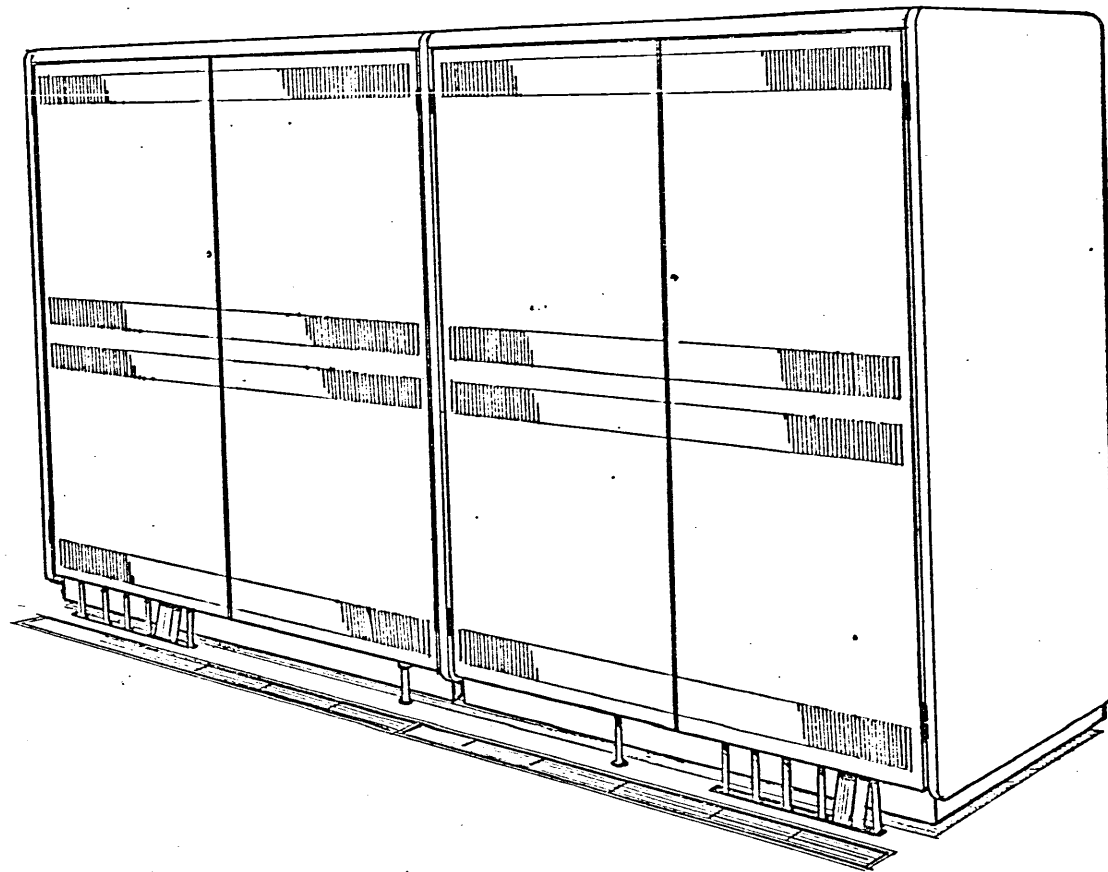


**digital** INDUSTRIAL  
DESIGN

BACK / TWO CPU ASSEMBLY



FRAME ASSY  
DOUBLE WIDTH  
HI-BOY



**digital** INDUSTRIAL  
DESIGN

BACK / TWO CPU ASSEMBLY