

COPY 13

FAA WJH Technical Center
00090582

**TERMINAL FACILITY CONFIGURATION
AND DATA SURVEY**

**HOUSTON INTERCONTINENTAL AIRPORT
(TOWER/TRACON)**



JUNE 1975

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HOUSTON TOWER/TRACON

PREFACE

This document is published by the National Aviation Facilities Experimental Center, Atlantic City, New Jersey, in response to a requirement from Systems Research and Development Service to provide basic data to the sustaining engineering program. It is intended only as a reference source, containing operational information, equipment content, layout, and physical design characteristics of major terminal facilities. It will be published as a series of facility supplements which will be updated as required during March of each year as long as the information is required for system planners. Changes to the reported conditions, of a nature believed to warrant an errata page, are to be forwarded to NAFEC, attention ANA-210, annually during the month of January. Suggestions on content, involving modification, revisions and/or additions, are also encouraged at that time.

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1. NAME OF FACILITY: HOUSTON TOWER
HOUSTON INTERCONTINENTAL AIRPORT
2. TYPE FACILITY:
FAA TOWER/TRACON
3. GEOGRAPHIC LOCATION:
HARRIS COUNTY, TEXAS
4. MAILING ADDRESS/FACILITY OFFICERS:
FAA AIRPORT TRAFFIC CONTROL TOWER
HOUSTON INTERCONTINENTAL AIRPORT
BOX 60158
HOUSTON, TEXAS 77205
PHONE:(FTS) 713-226-4369

EARL WOLF, FACILITY CHIEF
HARRY WITZEL, DEPUTY CHIEF
LEE TIPTON, OPERATIONS OFFICER
5. TYPE OF TOWER CAB:
CAB - PEI C-2
BASE - B-4
SHAFT - T-5
6. DISTANCE BETWEEN TRACON AND PRIMARY TOWER CAB:
TRACON LOCATED IN BASE OF THE TOWER STRUCTURE,
DISTANCE APPROXIMATELY 150' (APPROXIMATELY 16
FLOORS).
7. a. TYPE OF RADAR(S): ASR-6
b. ANTENNA LOCATION(S): 10.15 nmi SOUTH SOUTHEAST OF THE
FACILITY.
c. TYPE OF RADAR BEACON INTERROGATOR: ATCBI-3
3. NUMBER OF DISPLAYS:
a. TRACON/RAPCON: FIVE VERTICAL (ARTS TYPE-I) AND ONE
HORIZONTAL (ARTS TYPE-II)
b. MAINTENANCE ROOM: ONE VERTICAL (ARTS III TYPE-I)

9. NUMBER AND TYPE OF BRITE SYSTEM(S): ONE BRITE-1
NUMBER AND TYPE OF DISPLAY(S): ONE BRITE-1
10. ALPHA/NUMERIC CAPABILITY ON BRITE DISPLAY(S): YES
11. TYPE OF RADAR SERVICE PROVIDED: TCA (GROUP 2) AT THE
PRIMARY AIRPORT (IAH)
STAGE-2 AT ELLINGTON
AFB
12. LIST OF AUTHORIZED POSITIONS OF OPERATION:

TOWER CAB: LOCAL CONTROL (LC)
GROUND CONTROL (GC)
FLIGHT DATA (FD)
CLEARANCE DELIVERY (CD)
TEAM SUPERVISOR (TS)

TRACON: ARRIVAL/DEPARTURE - WEST (AR/DR-W)
COORDINATOR - WEST (CW)
ARRIVAL/DEPARTURE - NORTH (AR/DR-N)
COORDINATOR - NORTH (CN)
IAH FINAL (I)
ARRIVAL/DEPARTURE - EAST (AR/DR-E)
COORDINATOR - EAST (CE)
HOBBY FINAL (H)
COORDINATOR - HOBBY (CH)
ELLINGTON FINAL (EFD)
ARRIVAL/DEPARTURE - SOUTH (AR/DR-S)
COORDINATOR - SOUTH (CS)
ARRIVAL DATA (AD)
DEPARTURE DATA (DD)
ASSISTANT CHIEF (AC)
TEAM SUPERVISOR (TS)

13. NORMAL STAFFING BY SHIFTS:

0800 - 1600	13 CONTROLLERS	1 ASSISTANT CHIEF
	2 TEAM SUPERVISORS	1 DSO 1DSS

WITH AIRCRAFT USING REMOTED
XMITTER AND RECEIVER.

CLEAR LAKE (PVT.) - 26 nmi SE - NO TOWER - COMMUNICA-
TIONS VIA DIRECT RADIO LINK WITH
AIRCRAFT USING REMOTED XMITTER
AND RECEIVER.

CLEVELAND (MUNI) - 28 nmi NE - NO TOWER - COMMUNICATIONS
VIA TELEPHONE.

COLLIER (CIVIL) - 9 nmi SW - NO TOWER - COMMUNICATIONS
VIA TELEPHONE.

ELLINGTON AFB (MILITARY) - 24 nmi SE - AF TOWER - COM-
MUNICATIONS VIA INTERPHONE.

GALVESTON SCHOLLES (CIVIL) - 50 nmi SE - NO TOWER - COM-
MUNICATIONS VIA INTERPHONE
THROUGH GALVESTON FSS.

HOOKS (CIVIL) - 11 nmi NW - NO TOWER - COMMUNICATIONS VIA
TELEPHONE.

HULL FIELD (CIVIL) - 26 nmi SW - NO TOWER - COMMUNICATIONS
VIA TELEPHONE.

HUMPHREY BAYTOWN (CIVIL) - 23 nmi SE - NO TOWER - COMMU-
UNICATIONS VIA TELEPHONE AND
THROUGH HOUSTON FSS.

LAKE JACKSON (PVT) - 55 nmi S - NO TOWER - COMMUNICATIONS
VIA TELEPHONE.

LAKESIDE (CIVIL) - 19 nmi WSW - NO TOWER - COMMUNICATIONS
VIA TELEPHONE.

LA PORTE (CIVIL) - 24 nmi SE - NO TOWER - COMMUNICATIONS
VIA TELEPHONE.

LIBERTY (MUNI) - 34 nmi ENE - NO TOWER - COMMUNICATIONS
VIA TELEPHONE

MONTGOMERY COUNTY (CIVIL) - 24 nmi NNW - NO TOWER - COMMUNICATIONS VIA TELEPHONE.

PEARLAND (CIVIL) - 25 nmi SSE - NO TOWER - COMMUNICATIONS VIA TELEPHONE.

SPACE LAND (CIVIL) - 32 nmi SE - NO TOWER - COMMUNICATIONS VIA TELEPHONE.

WEISER (CIVIL) - 15 nmi WSW - NO TOWER - COMMUNICATIONS VIA TELEPHONE.

WILLIAM P. HOBBY (MUNI) - 20 nmi SSE - FAA CONTROL TOWER - COMMUNICATIONS VIA FDEP, INTERPHONE AND HOUSTON FSS.

16. NUMBER OF ARTS KEYPACKS (LOCATIONS):

- a. TOWER: TWO - LC AND FD
- b. TRACON/RAPCON: 13 - ALL POSITIONS IN TRACON WITH THE EXCEPTION OF AD AND DD.
- c. MAINTENANCE: ONE

17. AIR/GROUND FREQUENCIES BY POSITION (MHz):

CONTROL TOWER:

LC - 121.7, 118.1, 307.1, VORT, 128.1, 121.8, 127.25, 257.7

GC - 119.7, 121.7, 119.1, 118.1, 120.8, 120.2, 123.8, 121.5, 128.1, 127.25, 379.1, 307.1, 290.2, 257.7, 243.0, 257.7, 243.0, 121.8, 120.0, 125.6

CD - 121.7, 118.1, 127.25, 128.1, 121.8, 120.0, 125.6

FD - 124.05 (ATIS)

TRACON:

AR/DR-W - 119.1, 119.7, 120.8, 124.35, 123.8, 118.1, 127.75, 121.25, 121.5, 379.1, 307.1, 257.7, 290.2, 284.0, 390.8, 396.0, 243.0

AR/DR-N - 119.1, 119.7, 120.8, 127.25, 123.8, 124.35, 120.0, 121.5, 379.1, 307.1, 257.7, 290.2, 284.0, 390.8, 396.0, 243.0

I - 119.1, 119.7, 120.8, 123.8, 127.25, 120.0, 121.5,
VOR, 379.1, 390.8, 307.1, 290.2, 243.0, 284.0,
396.0

AR/DR-E - 119.1, 119.7, 120.8, 124.35, 257.7, 121.5,
125.6, 126.05, 120.0, 379.1, 290.2, 284.0,
390.8, 396.0, 243.0, 123.8

H - 119.1, 119.7, 120.8, 124.35, 123.8, 120.0, 121.5,
127.25, 379.1, 307.1, 257.7, 290.2, 284.0, 390.8,
396.0, 243.0

AR/DR-S - 119.1, 121.5, 120.0, 290.2, 284.0, 396.0,
390.8, 127.25

EFD - 121.5, 390.8, 127.25, 120.0, 290.2, 284.0, 243.0,
396.0

DD - 125.6, 121.8

18. FLIGHT DATA HANDLING ACTIVITY PECULIAR TO THE FACILITY:
FD POSITION IN THE TOWER UTILIZES BRITE-I FOR PRE-
VIEW AREA FOR HIS ARTS KEYBOARD.

FD POSITION LOGS THE HOURLY TRAFFIC COUNT AND
POSTS WEATHER ON CLOSED CIRCUIT TV FOR TRACON.

19. TRAFFIC COUNT FOR A REPRESENTATIVE BUSY DAY:
THE DATA PRESENTED HEREIN IS THE INSTRUMENT OPERA-
TIONS COUNT FOR A TYPICAL BUSY DAY AT THIS FACILITY.

INSTRUMENT OPERATIONS COUNT

<u>PRIMARY AIRPORT</u>					<u>SECONDARY AIRPORTS</u>					<u>OVERFLIGHTS</u>				
AC	AT	GA	MI	TOT	AC	AT	GA	MI	TOT	AC	AT	GA	MI	TOT
314	45	88	0	517	38	123	558	73	792			32	8	40

GRAND TOTAL - 1349

<u>PRIMARY AIRPORTS</u>					<u>STAGE III</u> <u>OVERFLIGHTS</u>					<u>TOTAS</u> <u>STAGE III</u>	<u>INSTRUMENT</u> <u>OPERATIONS</u> <u>COUNT PLUS</u> <u>STAGE III</u>
AC	AT	GA	MI	TOT	AC	AT	GA	MI	TOT		
4	14			18			6		6	24	1373

THE PEAK BUSY HOUR FOR IAH AIRPORT FOR THE MONTH OF MARCH 1975 OCCURRED BETWEEN THE HOURS OF 1500 - 1600 ON MARCH 3, 1975. THE PEAK BUSY HOUR ATTAINED A TOTAL OF 56 INSTRUMENT OPERATIONS.

20. FUTURE PLANNING:

THE CONTROL TOWER IS SCHEDULED TO BE COMPLETELY REMODERNIZED. THE ENCLOSED PICTURES OF THE CAB SHOWS THE FACILITY AS IT EXISTED ON APRIL 14, 1975. THE DIAGRAM DEPICTS THE TOWER AS PLANNED. THE SCHEDULED COMPLETION DATE FOR THE TOWER CAB IS IN SEPTEMBER 1975.

ALSO PLANNED IS A COMPLETE REMODERNIZATION OF THE TRACON WHICH IS SCHEDULED FOR MID-1976. MODERNIZATION OF THE TRACON CONSISTS OF NEW CONSOLES, SOLID STATE CONTROL EQUIPMENT AND THE ADDITION OF A SECOND HORIZONTAL DISPLAY.

21. FDEP EQUIPMENT:

THE FACILITY HAS THREE FDEP PRINTERS AND TWO KEYBOARDS, WITH TWO PRINTERS IN USE AND ONE SPARE.

ONE PRINTER AND KEYBOARD LOCATED IN THE TOWER CAB AND IS UTILIZED FOR DEPARTURES FROM THE PRIMARY AIRPORT (IAH).

THE SECOND PRINTER AND KEYBOARD ARE LOCATED IN THE TRACON AND USED FOR ARRIVALS, SATELLITE DEPARTURES, AND OVERFLIGHTS.

22. TOWER EN ROUTE AGREEMENTS:

BEAUMONT APPROACH CONTROL

23. ASSOCIATED FSS(S):
HOUSTON FSS - LOCATED AT THE HOBBY AIRPORT
GALVESTON FSS - LOCATED AT GALVESTON SCHOLES AIRPORT
24. RADAR DATA PROCESSING WITH ADJACENT FACILITY(S):
AUTOMATIC HANDOFF'S ARE BEING MADE BETWEEN THE
TRACON AND THE HOUSTON ARTCC.
25. WEATHER DATA POSTED WITHIN FACILITY (SOURCE AND HOW
RECEIVED):
IAH - VIA TELEAUTOWRITER FROM NATIONAL WEATHER
SERVICE, HOUSTON INTERCONTINENTAL AIRPORT
HOU - VIA TELEAUTOWRITER FROM HOUSTON FSS -
HOBBY AIRPORT
EDF - VIA TELEAUTOWRITER FROM AF WEATHER SERVICE,
ELLINGTON AFB
*CLEAR LAKE CITY AIRPORT - NATIONAL WEATHER SERVICE
THROUGH TELEAUTOWRITER
FROM GALVESTON FSS
*LAKE JACKSON AIRPORT - NATIONAL WEATHER SERVICE
THROUGH TELEAUTOWRITER FROM
GALVESTON FSS
*GALVESTON - NATIONAL WEATHER SERVICE THROUGH TELE-
AUTOWRITER FROM GALVESTON FSS

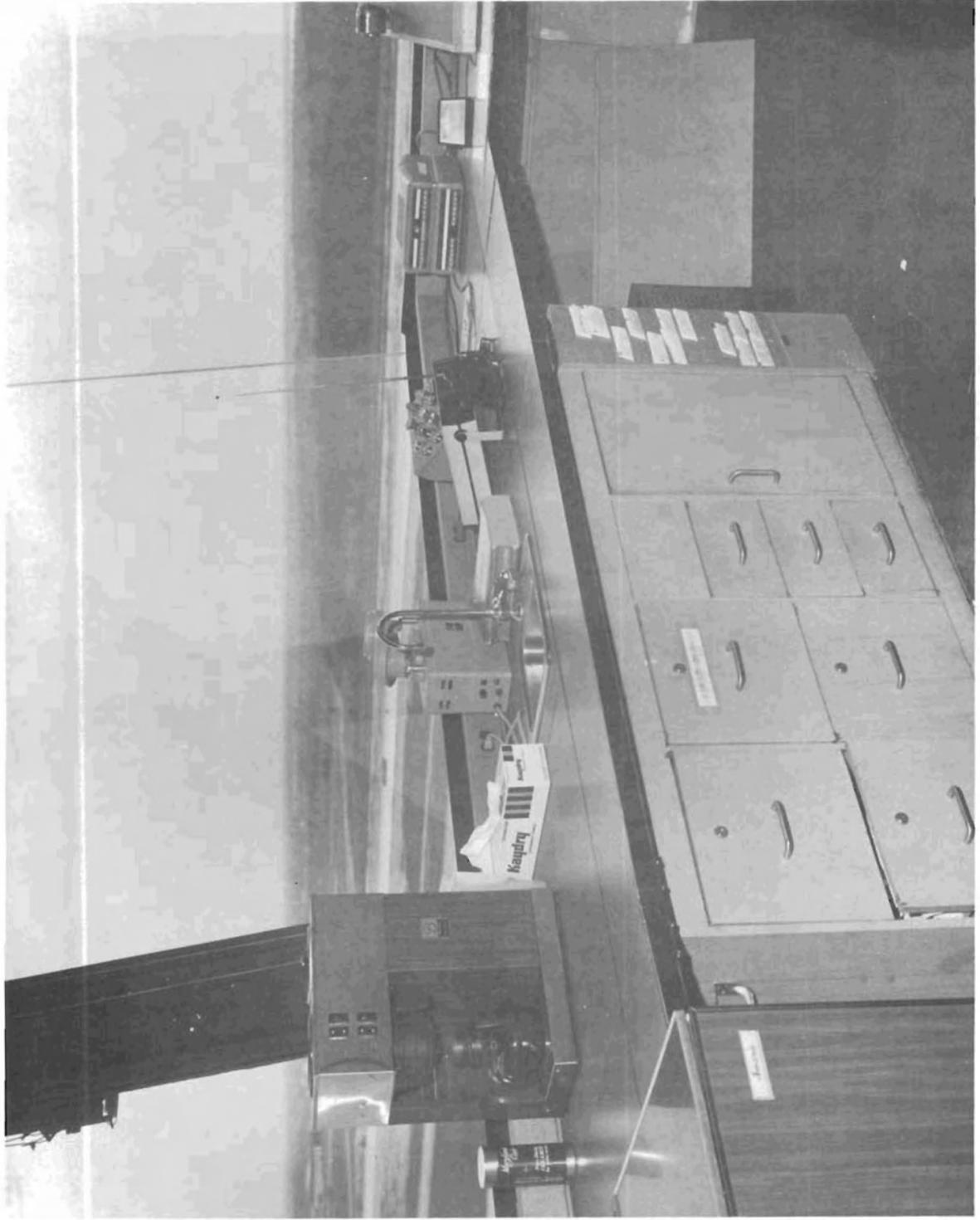
*POSTED ONLY WHEN THE WEATHER AT THESE AIRPORTS IS
BELOW VFR MINIMUMS.
26. RVR'S (RVV'S):
RVR RUNWAY 8 IAH - TOUCHDOWN, MID AND ROLLOUT -
INDICATORS IN TOWER CAB AND TRACON
RVR RUNWAY 3 HOU - TOUCHDOWN, MID AND ROLLOUT -
INDICATORS IN TRACON
RVV RUNWAY 17 & 35 EDF - INFORMATION RECEIVED VIA
INTERPHONE FROM EFD TOWER
27. ASDE AND TYPE OF DISPLAY:
NONE
28. ARTS III COMPUTER:
a. CAPACITY (NO. OF K): 32K
b. NO. OF INPUT/OUTPUT CHANNELS: 16

- c. IS THIS FACILITY AN ASSEMBLY SITE: YES
THIS FACILITY HAS ONE 9300 CARDREADER

29. ACCESS TO CAB FOR MOVEMENT OF EQUIPMENT:
EQUIPMENT IS GENERALLY TAKEN INTO OR REMOVED FROM THE TOWER CAB VIA THE STAIRWELL. THE TOWER CAB DOES NOT HAVE A TRAPDOOR IN THE FLOOR, HOWEVER, IS PARTIALLY OBSTRUCTED BY A CABLE RACK.

30. MISCELLANEOUS:
A TESTING PROGRAM IS UNDERWAY AT PRESENT AT HOUSTON WHERE THE ARTS PROGRAM HAS BEEN MODIFIED TO ALLOW THE CONTROLLERS TO COMMUNICATE WITH THE 9020 COMPUTER VIA THE ARTS KEYBOARDS RATHER THAN HAVING TO UTILIZE THE FDEP. THIS IS AN EXTENSION OF THE FDEP INTENDED TO IMPROVE THE RESPONSE TIME. THIS CAN BE ACCOMPLISHED THROUGH EACH OF THE ARTS KEYBOARDS AT THE OPERATING POSITIONS. ALL FDEP MESSAGES (EXCEPT FIELD 10 AMENDMENTS AND FLIGHT PLAN MESSAGES) CAN BE ACCOMPLISHED THROUGH THE ARTS KEYBOARD. FEATURES WHICH THIS PROGRAM CAN ACCOMPLISH WHICH CANNOT BE DONE VIA FDEP ARE:

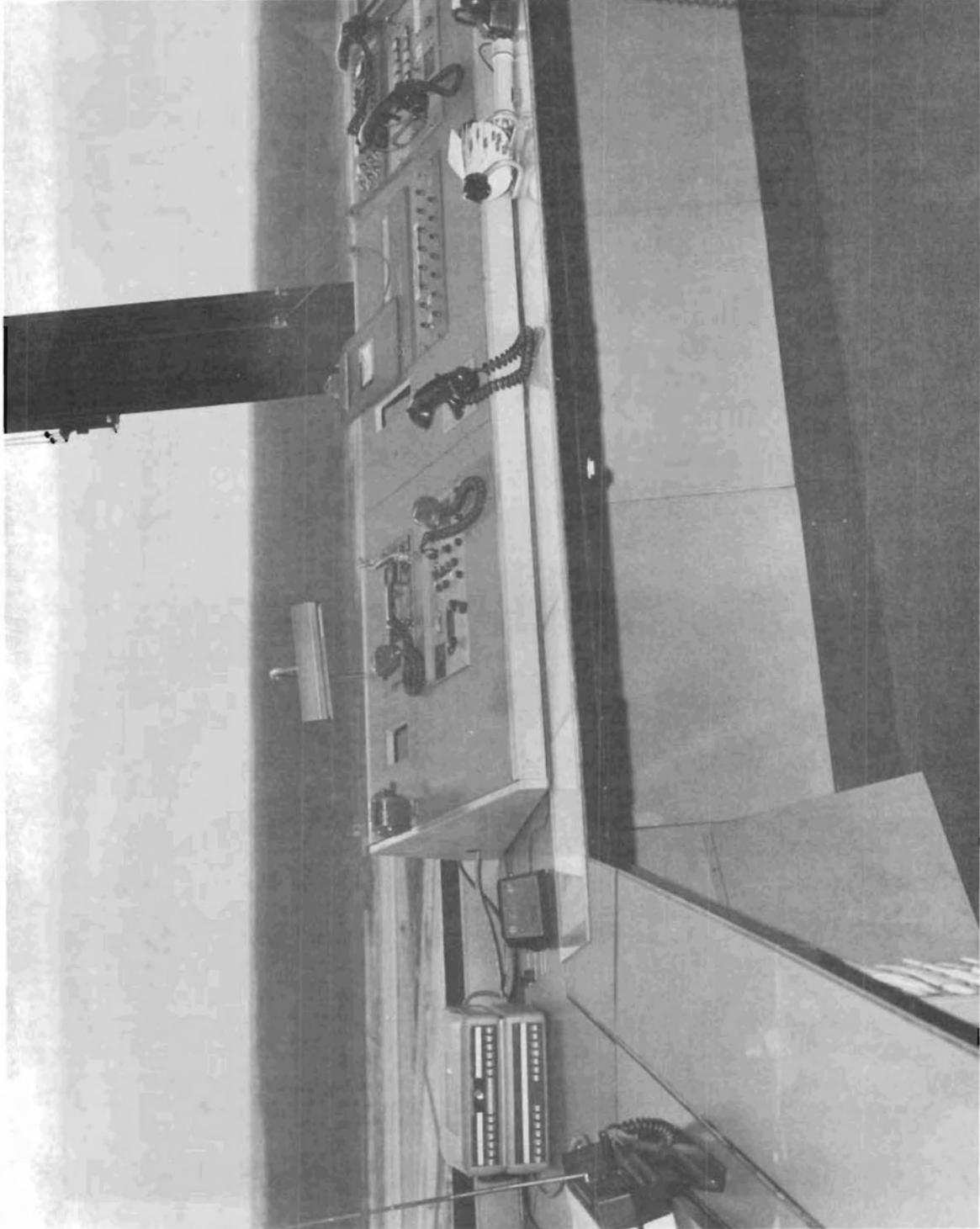
- a. FR MESSAGE - (FULL READOUT) - THE FULL ROUTE READOUT CAN BE REQUESTED, THE INFORMATION IS RECEIVED ON THE FDEP PRINTER.
- b. RB MESSAGE - (RESTORE DATA BASE) - PRIOR TO THIS MODIFICATION, THIS FUNCTION COULD ONLY BE ACCOMPLISHED BY THE ARTCC THROUGH THE 9020.
- c. THIS PROGRAM ALSO ALLOWS AMENDMENTS TO AIRCRAFT WHILE THE AIRCRAFT IS ACTIVE IN THE ARTS SYSTEM.



IAH

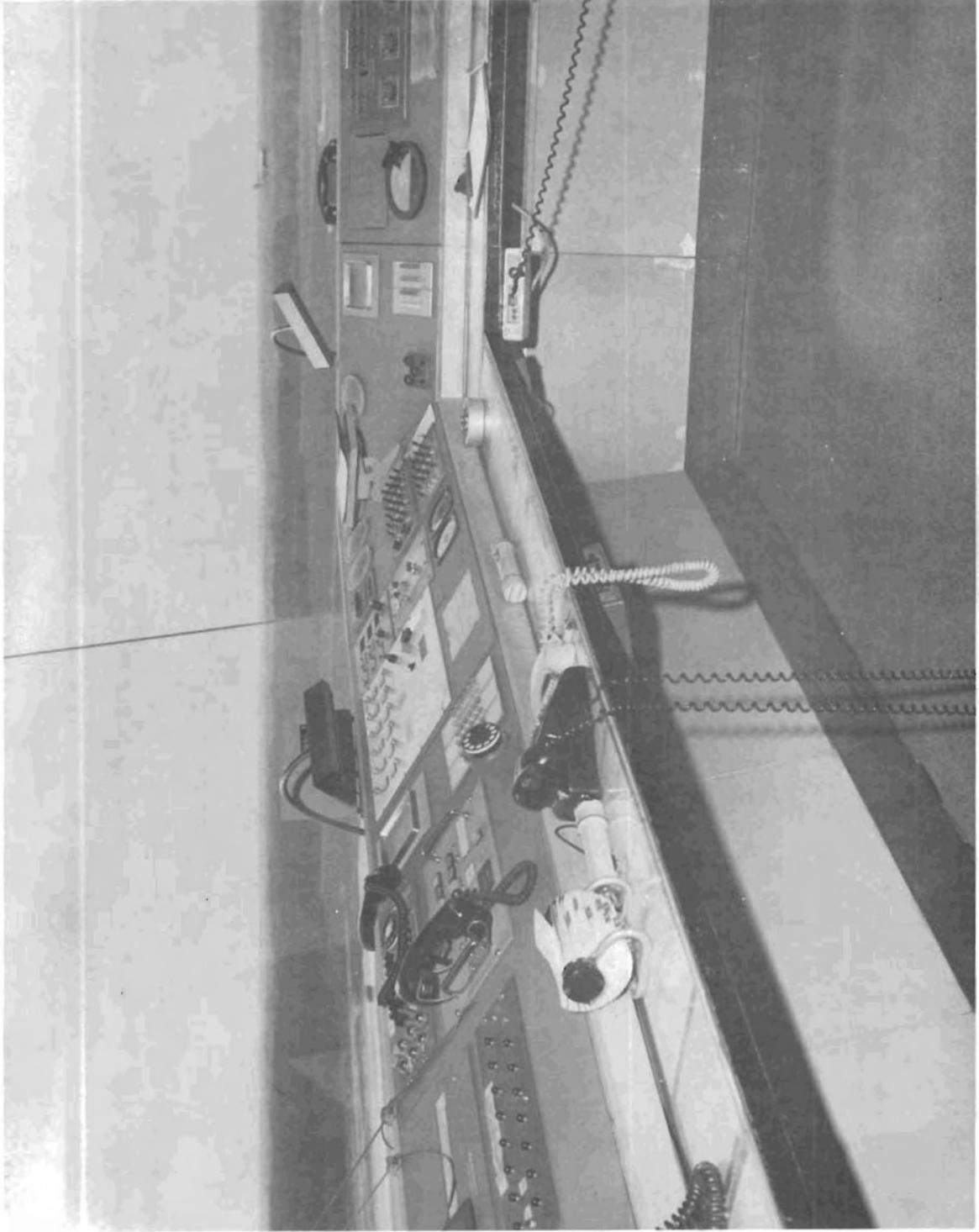
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IAH TOWER-1



IAH TOWER-2

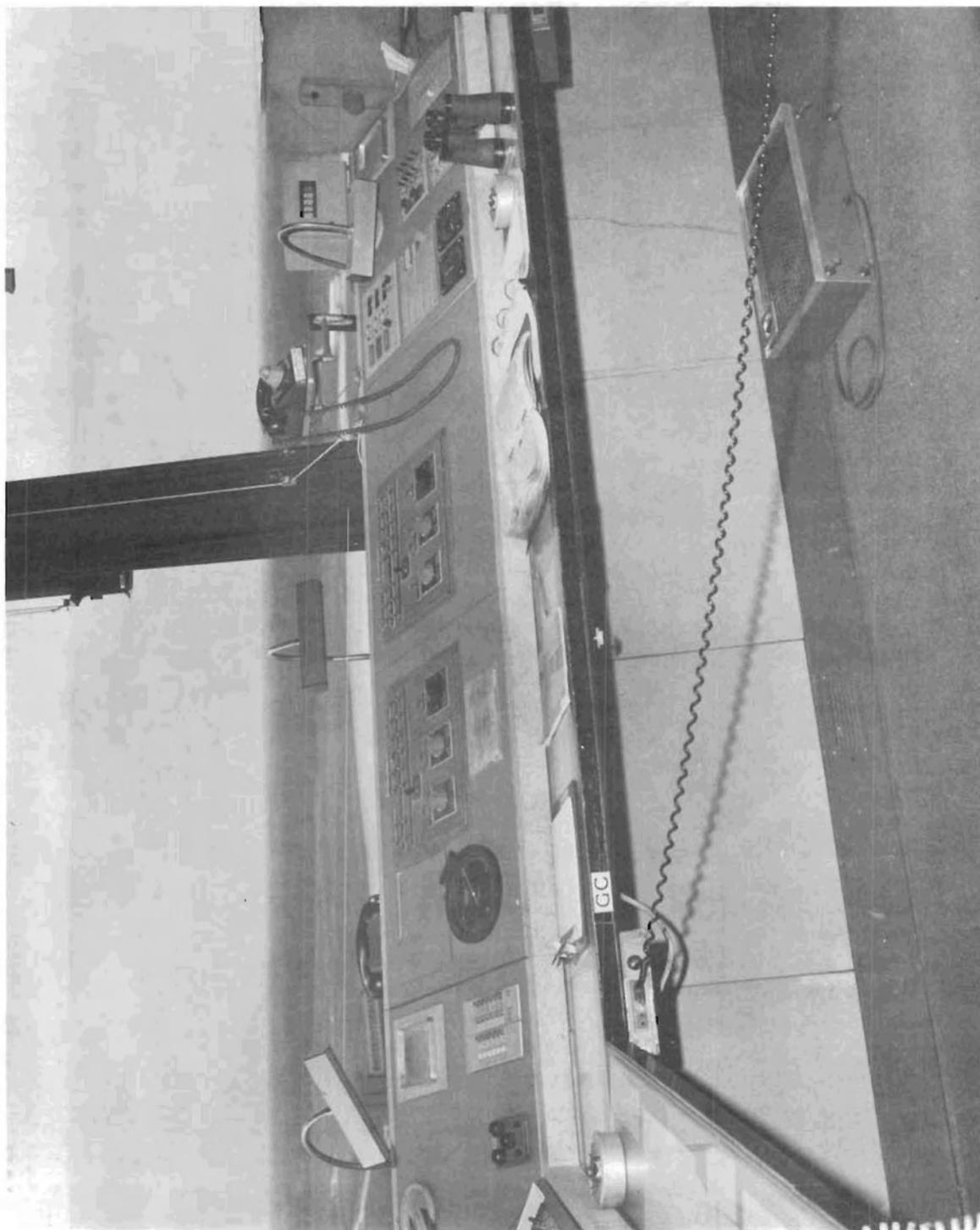
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IAH

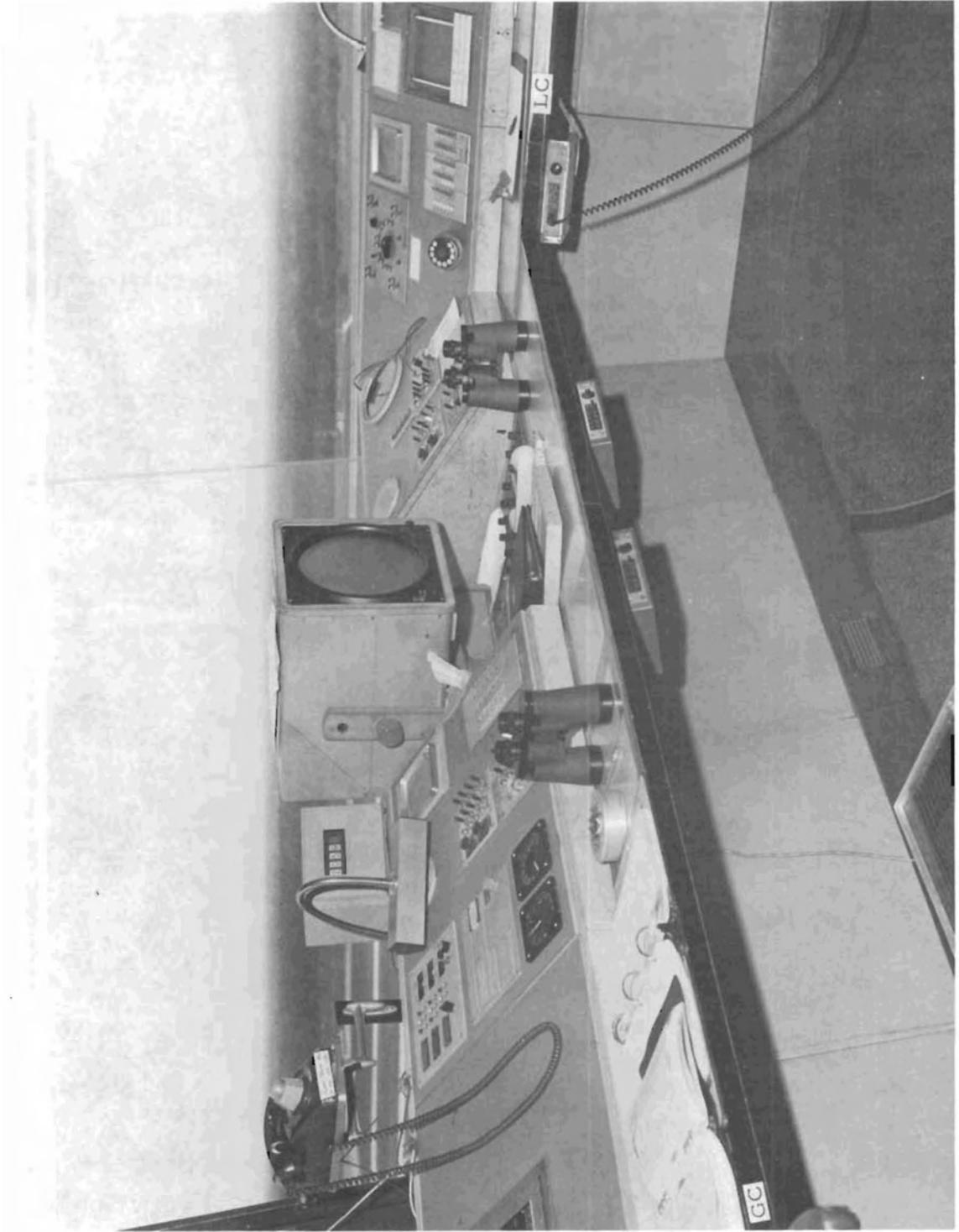
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IAH TOWER-3



IAH 4/75

IAH TOWER-4

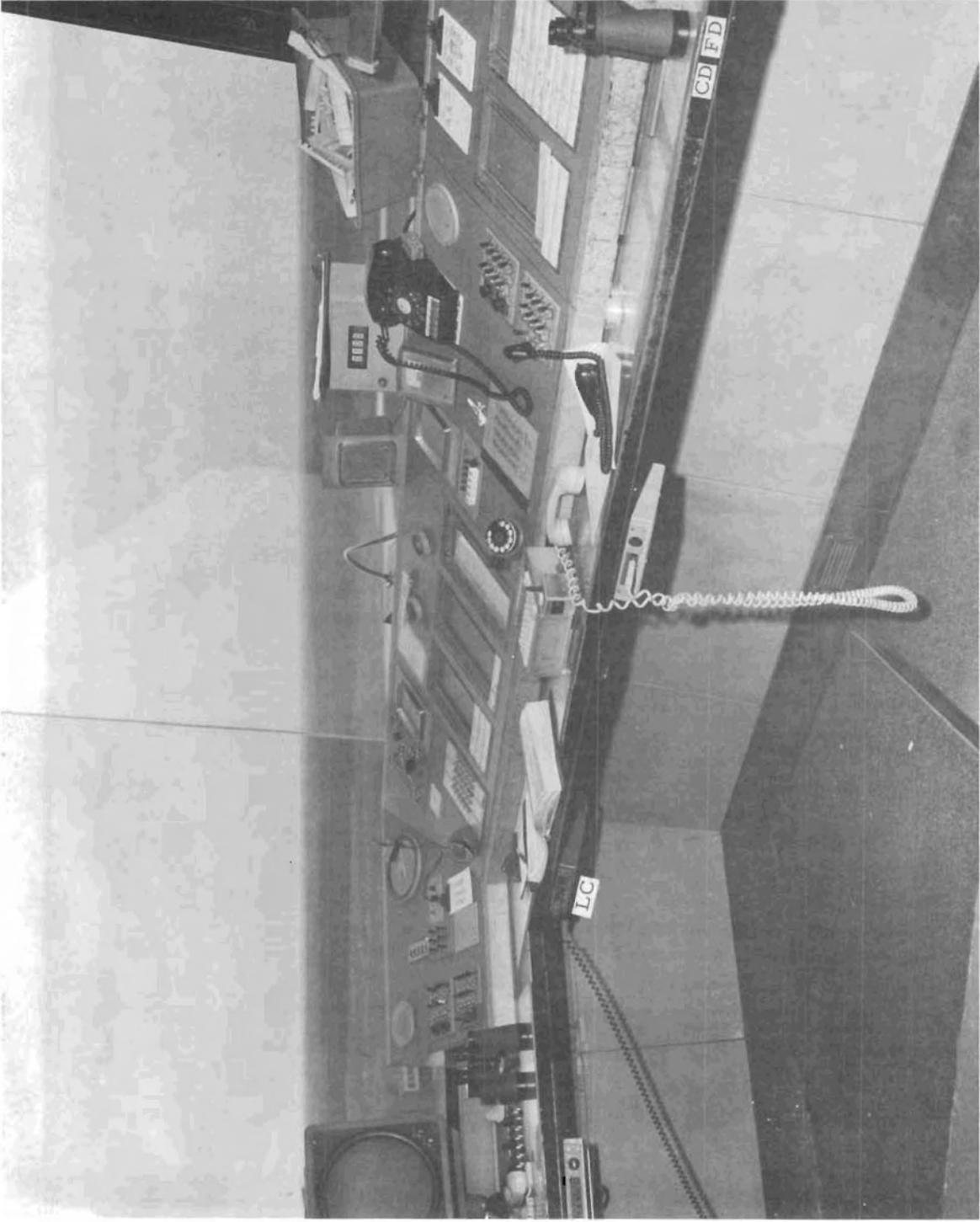


IAH TOWER-5

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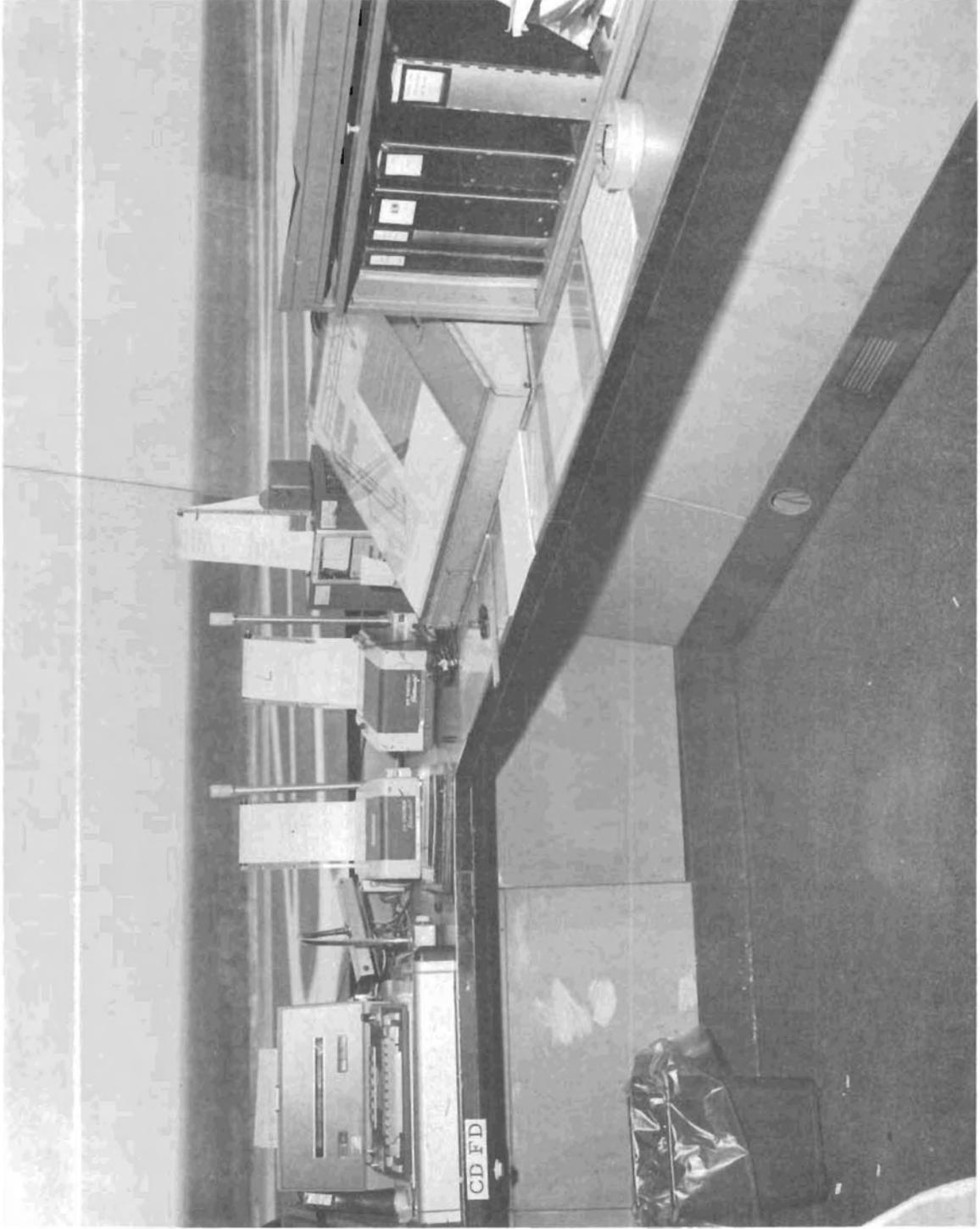
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IAH TOWER-6

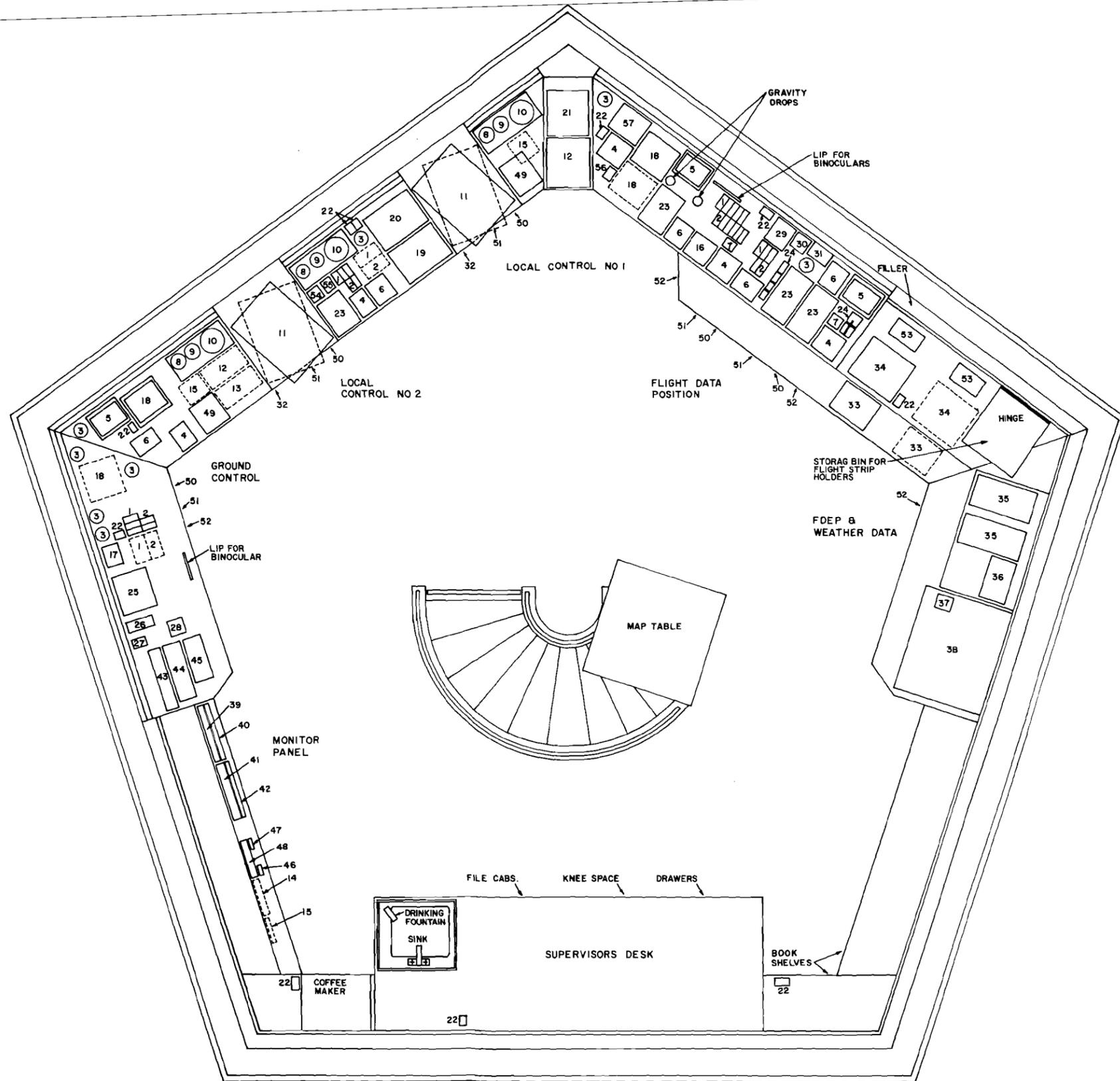
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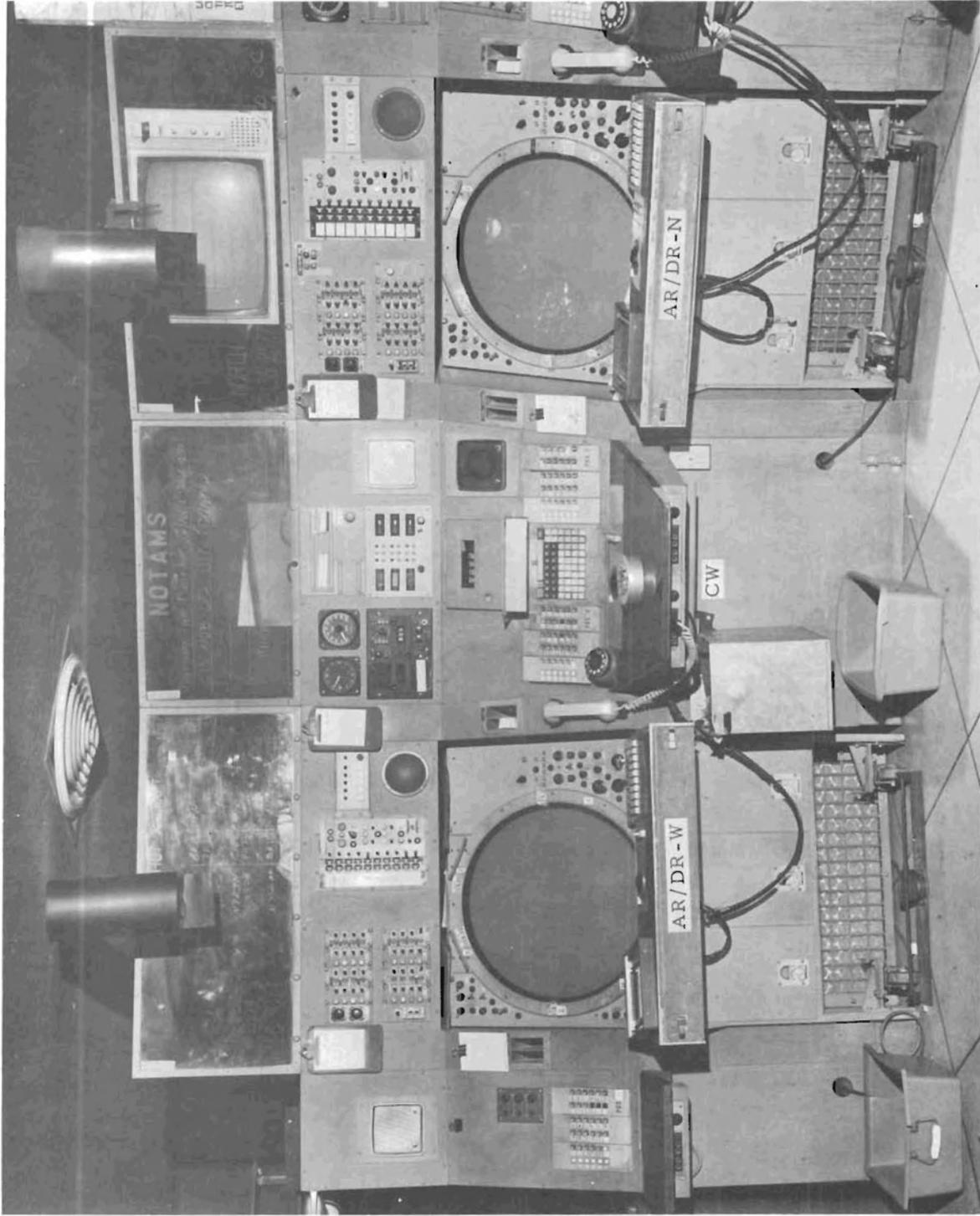
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IAH TOWER-7

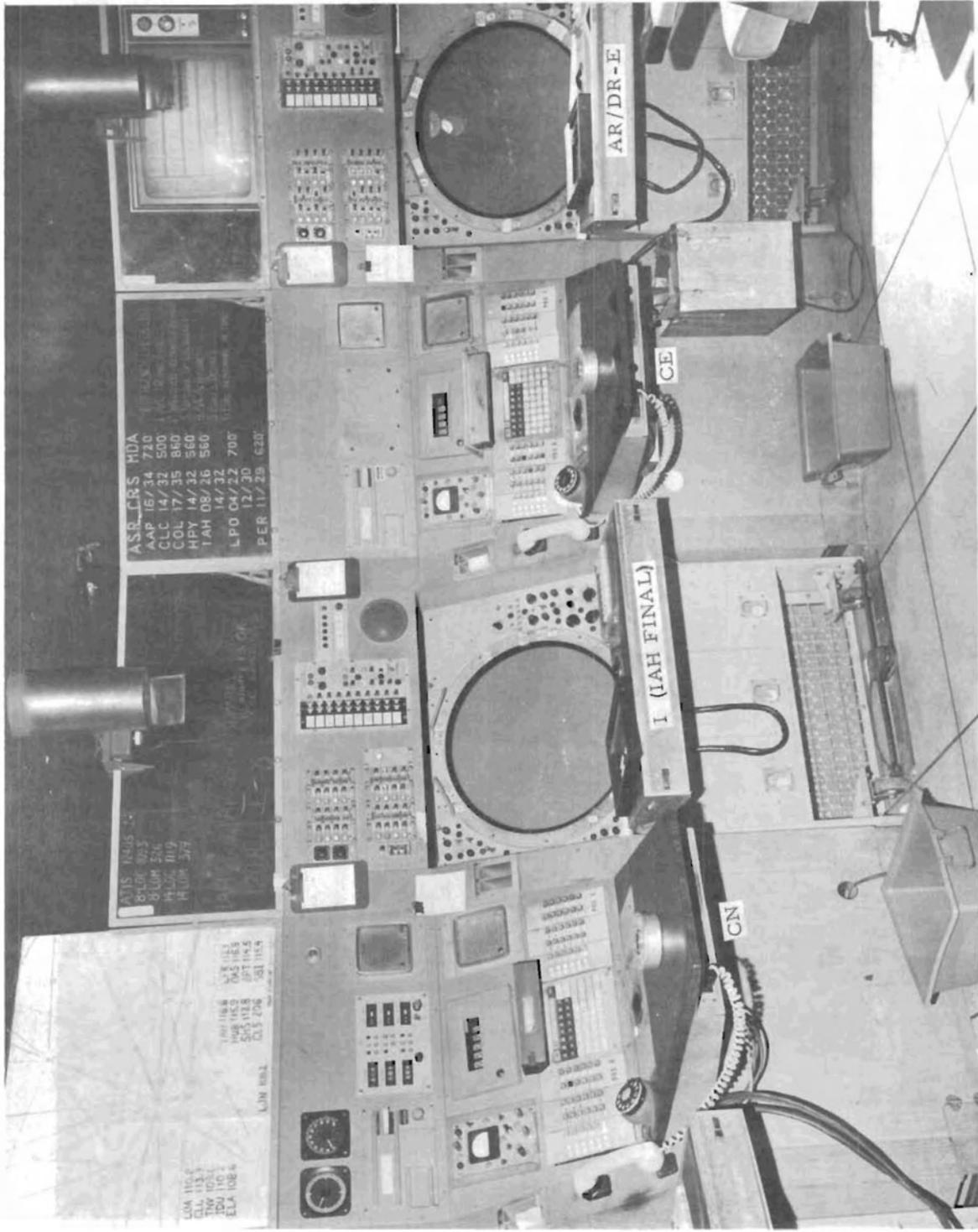


1. T/R SELECTOR UNIT (2 FUTURE)
2. SELECTOR PANEL (2 FUTURE)
3. FAA SPEAKER
4. TELCO (30I) KEYBOARD
5. CLOCK
6. TELCO SPEAKER
7. TELCO DIAL
8. WIND DIR. INDICATOR
9. WIND VEL. INDICATOR
10. ALTIMETER
11. BRITE DISPLAY
12. BRITE CONTROL PANEL (1 FUTURE)
13. A/N CONTROL PANEL (FUTURE ONLY)
14. BEACON CONTROL PANEL (1 FUTURE)
15. DISPLAY CONTROL PANEL (3 FUTURE ONLY)
16. A/N KEYBOARD
17. MUTING PANEL
18. RVR READOUT (? FUTURE)
19. RUNWAY 8-26 LIGHT PANEL
20. RUNWAY 14-32 LIGHT PANEL
21. S.T.O.L. LIGHTING PANEL
22. DIMMER FOR OVERHEAD LIGHT
23. FLIGHT PROGRESS BOARD
24. STRIP STORAGE BIN
25. INTERCOM SPEAKER CONTROL
26. MONITOR PANEL FOR PHONE
27. PHONE MONITOR RACK
28. LAND LINE PHONE
29. TELCO HOT LINE
30. LINE FOR MIDS
31. TELEPHONE MOUNT
32. TOGGLE SWITCH FOR BRITE
33. FDEP KEYBOARD (1 FUTURE)
34. FDEP PRINTER (1 FUTURE)
35. ELECTROWRITER
36. TELAUTOGRAPH
37. ATIS
38. CLOSED CIRCUIT T.V.
39. 1-8 MONITOR PANEL
40. ENG. GEN. MONITOR
41. 1-14 MONITOR PANEL
42. VORTAC PANEL
43. TOWER INDICATOR
44. VHF TRANSCEIVER
45. UHF TRANSCEIVER
46. LIGHT GUN TEST
47. WINDOW WASHER
48. WINDOW WASHER
49. PODIUM
50. TELCO JACK
51. FAA JACK
52. SHELF STORAGE
53. FDEP PAPER HOLDER
54. CD BACKUP
55. LC/GB BACKUP
56. PEM FOR A/N KEYBOARD
57. RUNWAY 8 APPROACH LIGHTS



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IAH TRACON-1



IAH 4/75

IAH TRACON-2

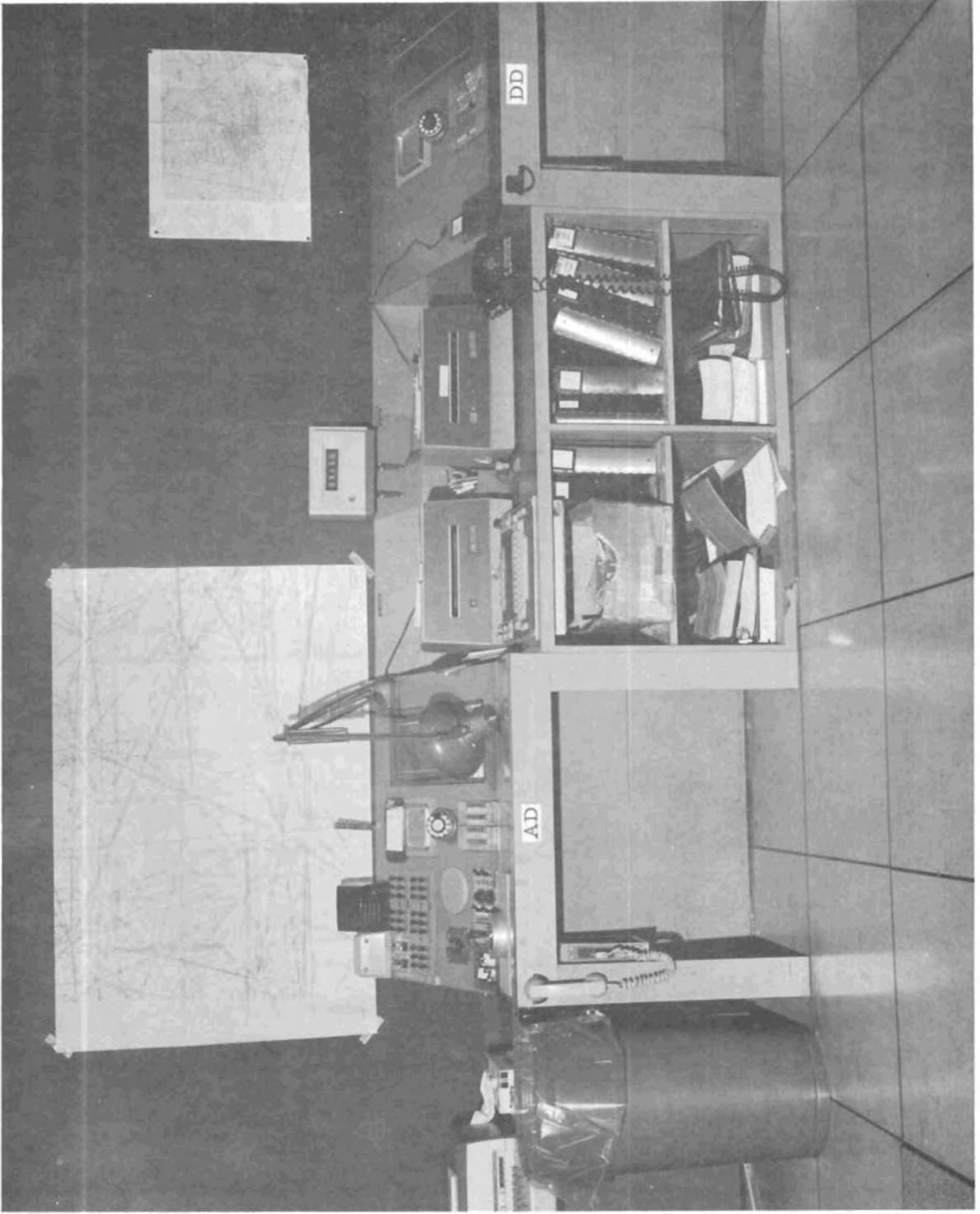




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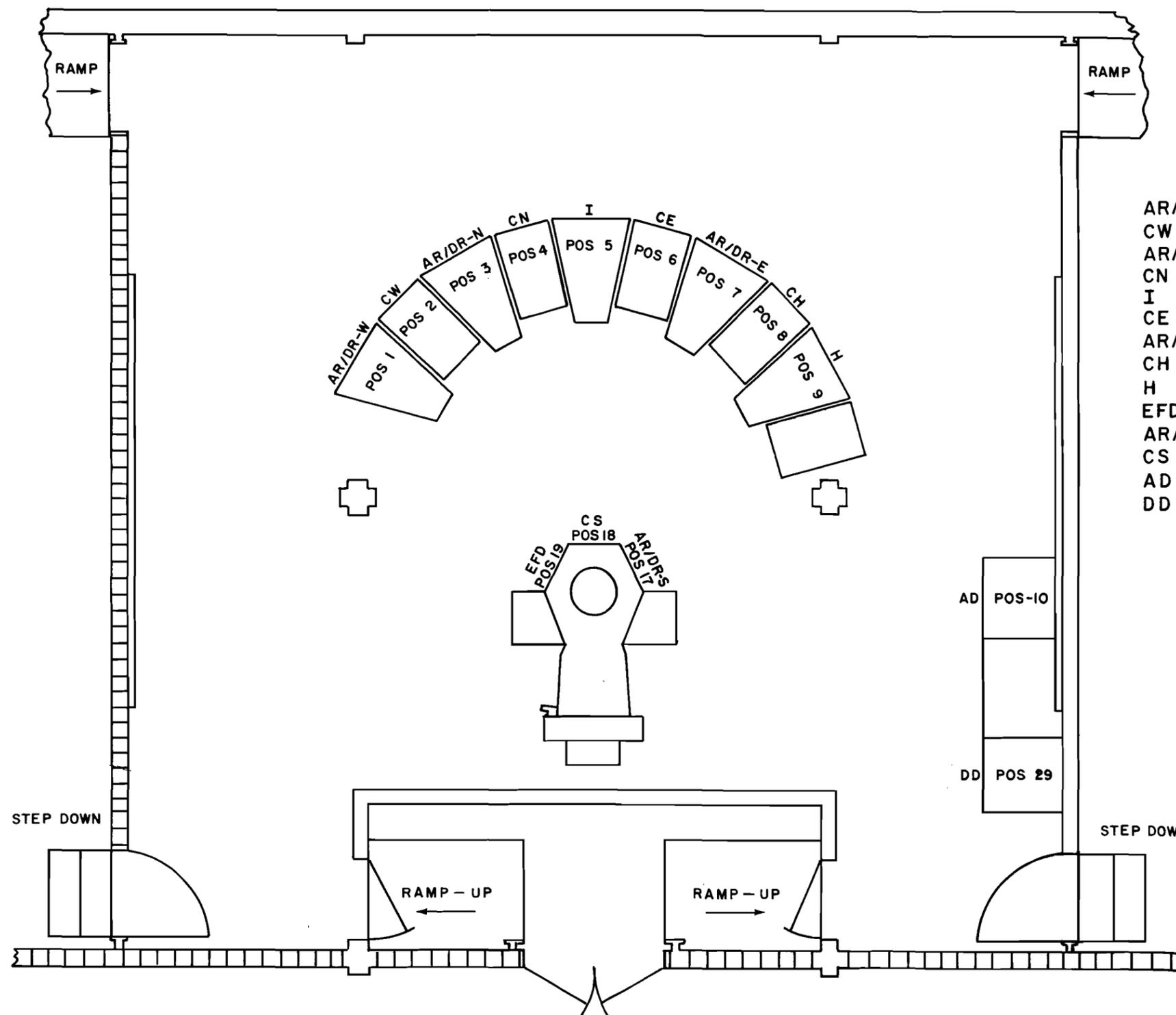
IAH TRACON-4



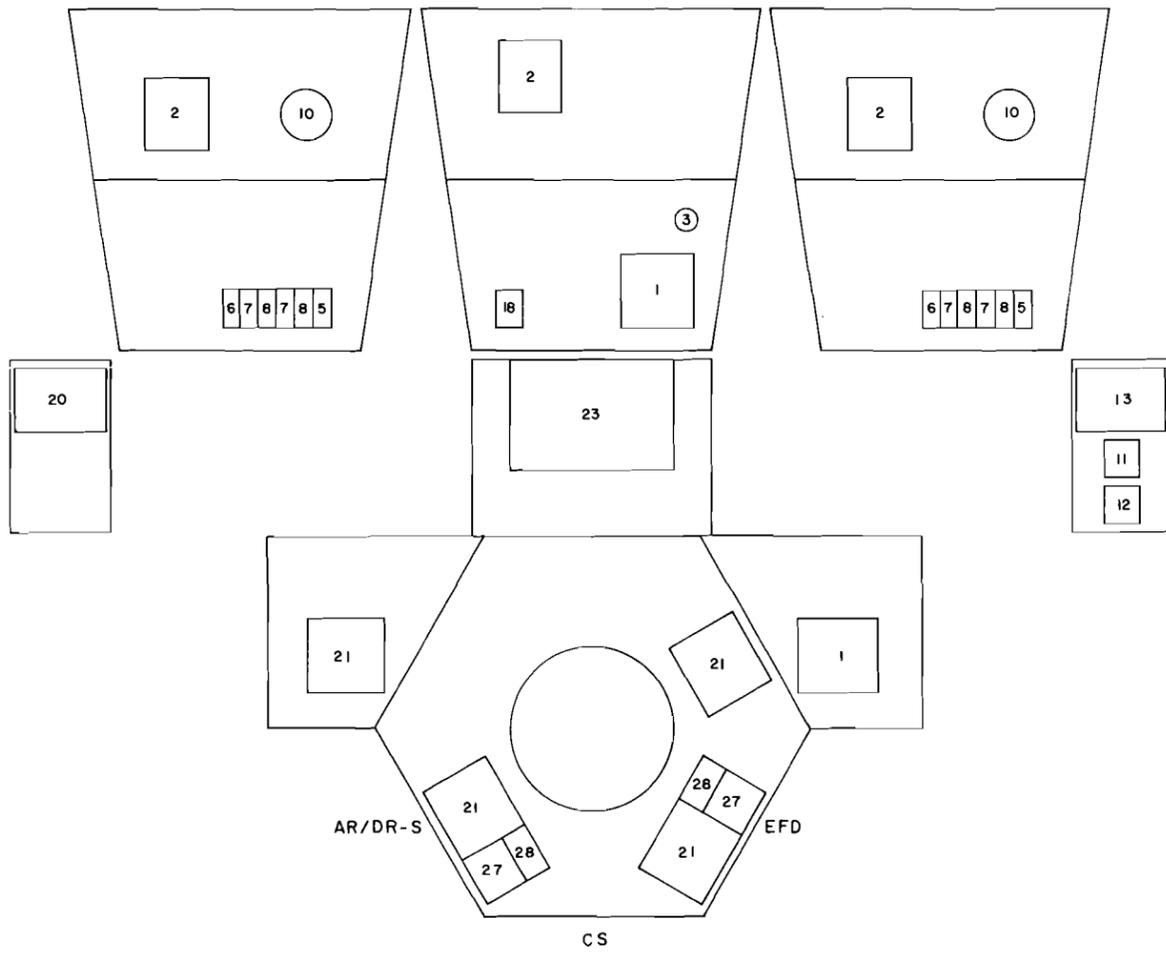
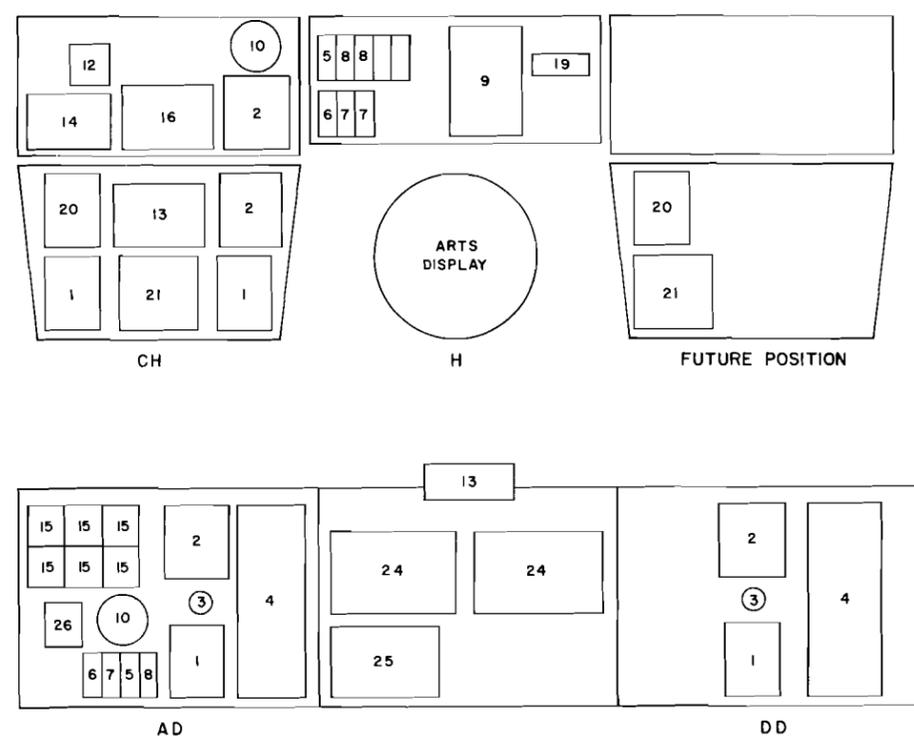
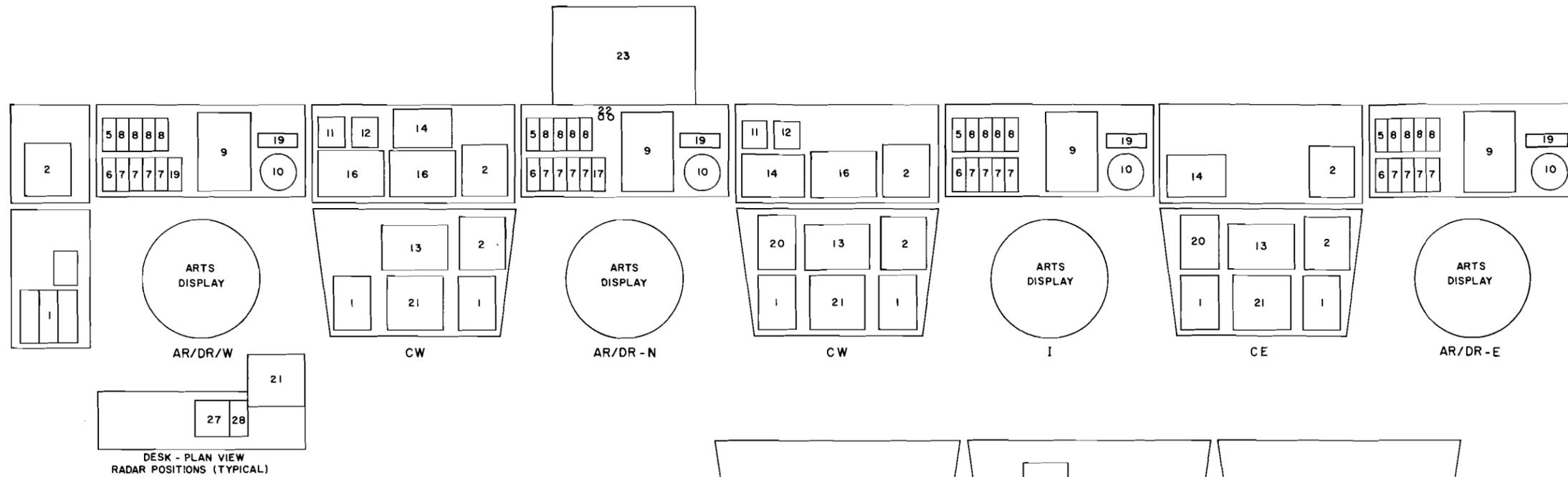
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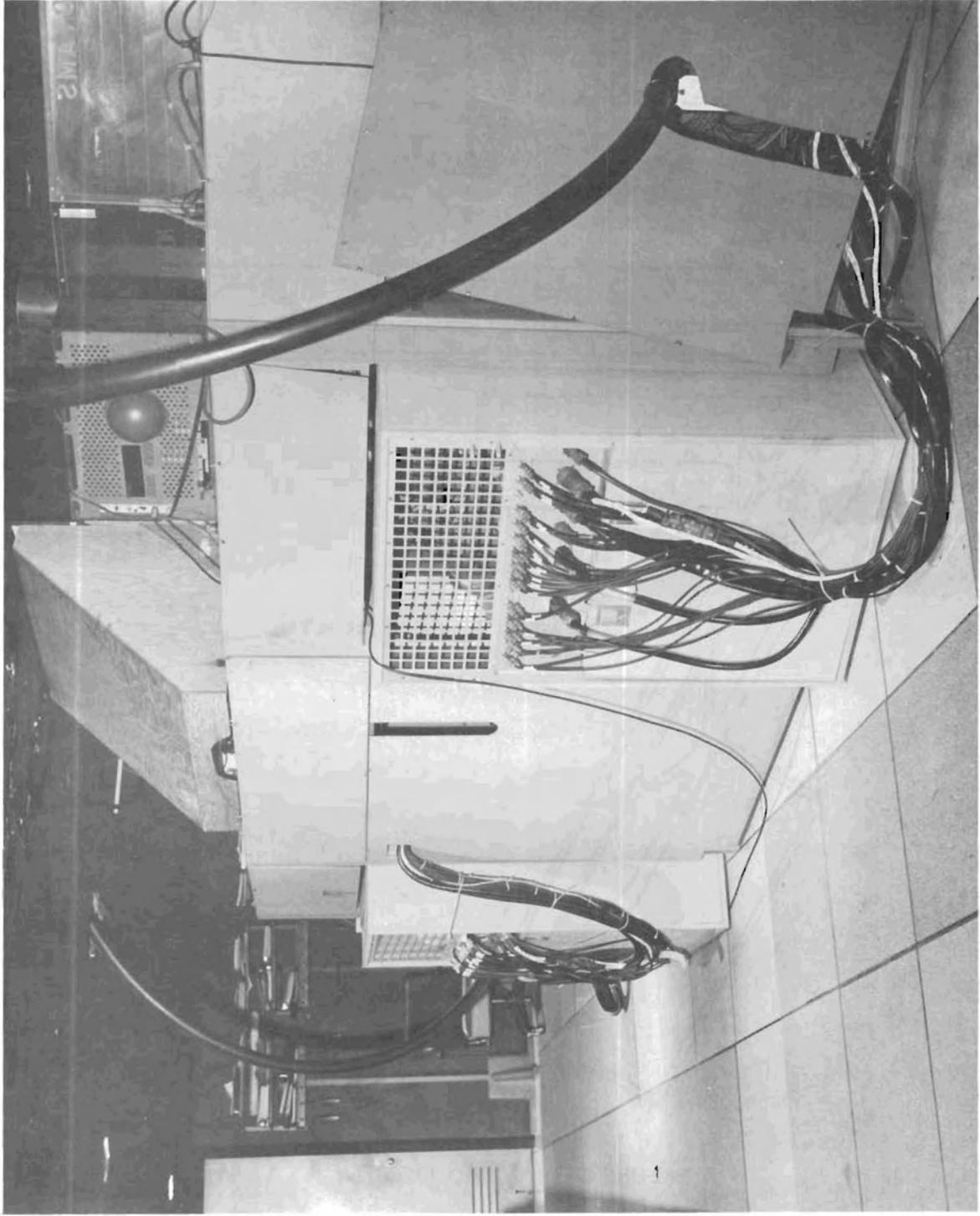
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IAH TRACON-5



- AR/DR-W ARRIVAL/DEPARTURE - WEST
- CW COORDINATOR - WEST
- AR/DR-N ARRIVAL/DEPARTURE - NORTH
- CN COORDINATOR - NORTH
- I IAH FINAL
- CE COORDINATOR - EAST
- AR/DR-E ARRIVAL/DEPARTURE - EAST
- CH COORDINATOR - HOLI
- H HOBBY - FINAL
- EFD ELLINGTON - FINAL
- AR/DR-S ARRIVAL/DEPARTURE - SOUTH
- CS COORDINATOR - SOUTH
- AD ARRIVAL DATA
- DD DEPARTURE DATA

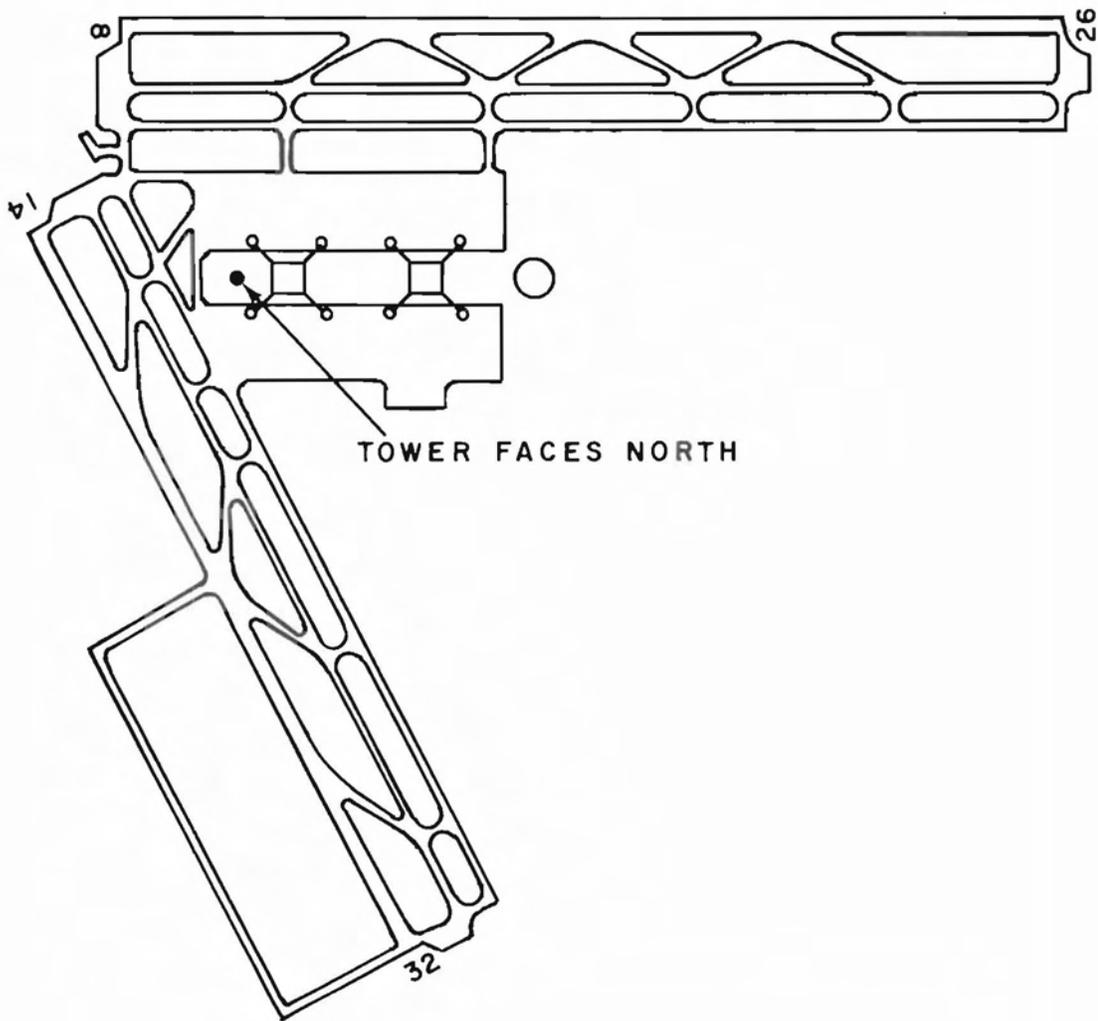




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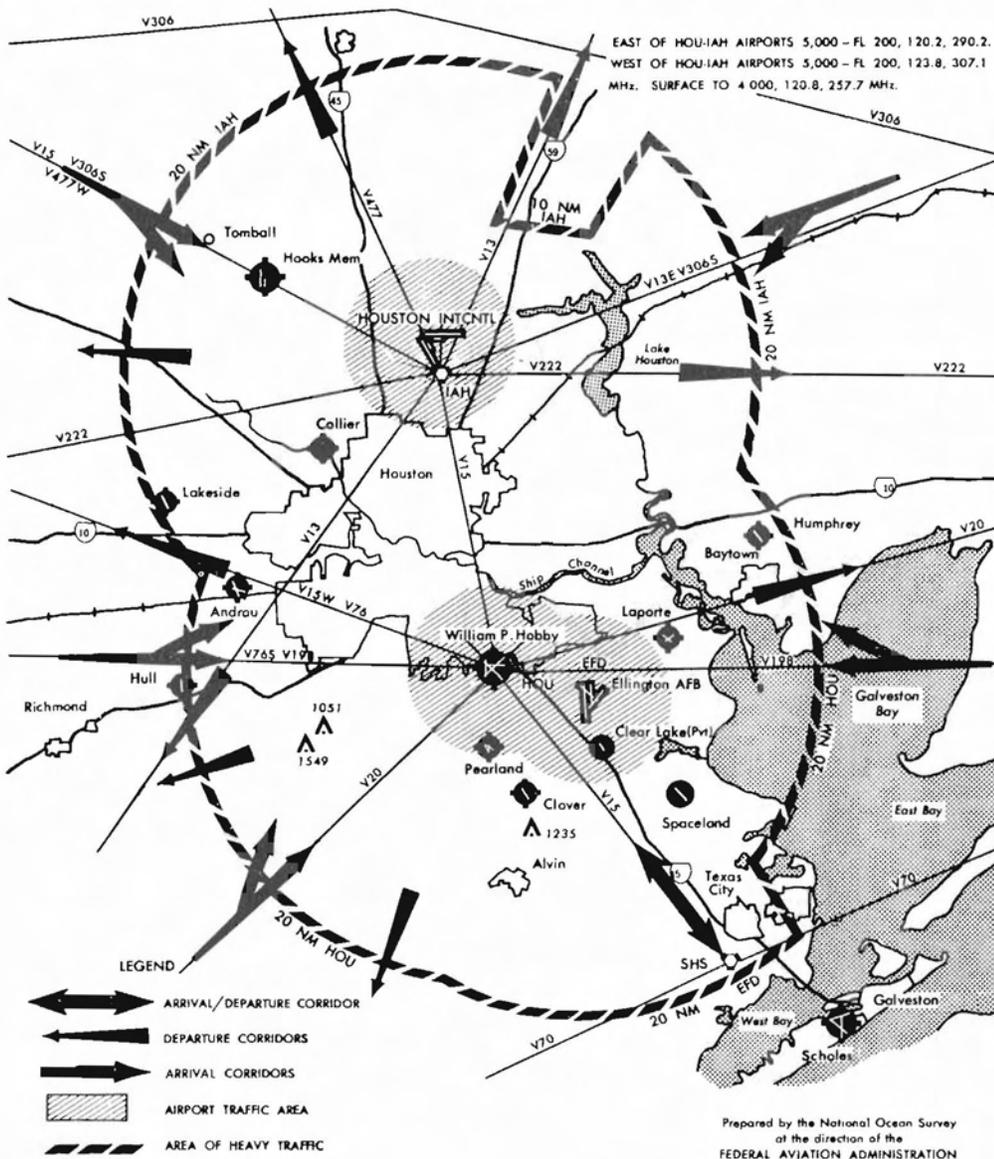
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IAH EQUIPMENT ROOM-1



HOUSTON TERMINAL AREA GRAPHIC NOTICE

THIS CHART DEPICTS THE IFR ARRIVAL/DEPARTURE CORRIDORS SERVING THE HOUSTON TERMINAL AREA FOR THE INFORMATION AND GUIDANCE OF PILOTS OPERATING VFR WITHIN THE AREA. VFR PILOTS OPERATING WITHIN A 20-MILE RADIUS OF HOUSTON INTERCONTINENTAL, HOBBY AIRPORT OR ELLINGTON AFB ARE ENCOURAGED TO CONTACT HOUSTON RADAR FOR TRAFFIC ADVISORY SERVICE.



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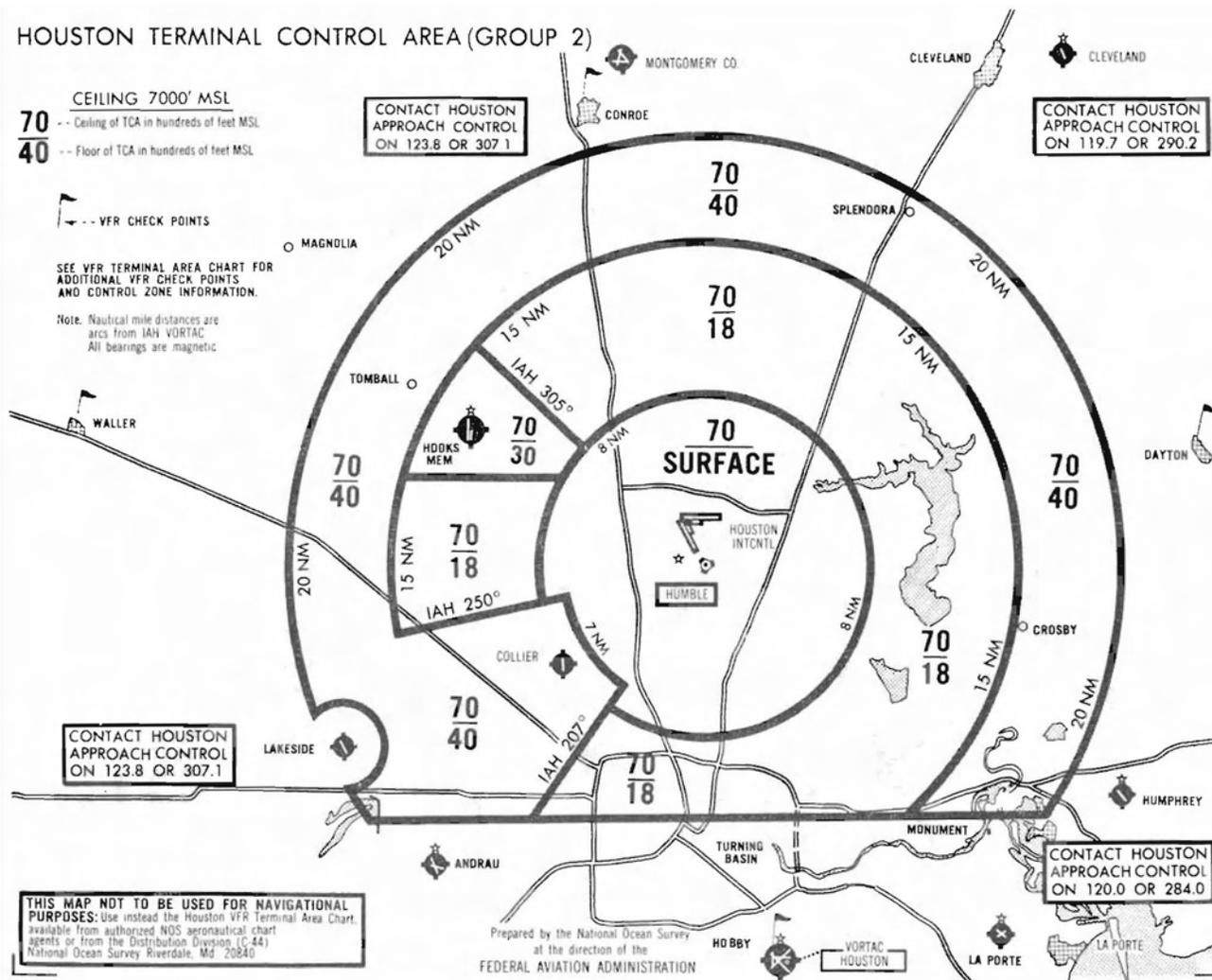
HOUSTON TERMINAL CONTROL AREA (GROUP 2)

CEILING 7000' MSL
70 -- Ceiling of TCA in hundreds of feet MSL
40 -- Floor of TCA in hundreds of feet MSL

-- VFR CHECK POINTS

SEE VFR TERMINAL AREA CHART FOR
 ADDITIONAL VFR CHECK POINTS
 AND CONTROL ZONE INFORMATION.

Note: Nautical mile distances are
 arcs from IAH VORTAC
 All bearings are magnetic



THIS MAP NOT TO BE USED FOR NAVIGATIONAL PURPOSES: Use instead the Houston VFR Terminal Area Chart, available from authorized NOS aeronautical chart agents or from the Distribution Division (C-44) National Ocean Survey Riverdale, Md 20840

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TERMINAL CONTROL AREAS

TCA-9