date 12/8/97

20 foot Chamber Acoustic Noise

calibration 94.0 on 12/8/97.
calibration 94.0 on 12/9/97

FREQUENCY ANALYSIS DATA RECORDING SHEET

	12/8/97	12/8/97	12/9/97	12/9/97	12/9/97	
FLOOR	1	1	1	2	2	FLOOR
DESCRIPTION OF LOCATION	TV	SALAD MACHINE	TREADMILL JOGGING	LiOH	48Vdc Accum	DESCRIPTION OF LOCATION
LOCATION CODE	5	6	7	8	9	LOCATION CODE
memory	5	6	7	8	9	memory
20						20
25	70.0	71.4	76.1	72.4	77.6	25
31.5	71.8	73.9	64.0	79.3	85.4	31.5
40	63.4	78.7	66.4	65.9	68.3	40
50	71.3	73.7	62.5	74.1	92.8	50
63	63.5	63.6	65.0	65.4	64.0	63
80	67.5	66.2	73.3	60.8	60.9	80
100	58.1	60.5	79.6	67.4	66.7	100
125	56.4	65.2	79.1	70.9	69.5	125
160	67.3	65.8	69.3	67.4	65.3	160
200	69.0	59.7	65.4	65.1	62.5	200
250	66.4	57.7	64.0	60.1	63.7	250
315	66.1	57.8	63.2	58.0	63.2	315
400	68.2	58.5	62.2	68.0	66.2	400
500	71.8	53.8	62.9	66.7	65.1	500
630	73.6	53.4	61.3	70.6	62.0	630
800	73.1	54.6	59.4	65.5	64.4	800
1 K	66.7	51.2	59.5	64.0	64.0	1 K
1.25 K	53.0	51.5	56.6	70.1	69.9	1.25 K
1.6 K	59.4	51.8	56.5	66.3	65.3	1.6 K
2 K	59.5	47.8	54.7	65.7	64.5	2 K
2.5 K	58.1	49.7	53.1	68.0	69.5	2.5 K
3.15 K	59.4	46.8	53.5	63.8	69.5	3.15 K
4 K	49.5	45.8	51.7	68.5	66.7	4 K
5 K	49.0	44.5	52.8	67.0	65.0	5 K
6.3 K	46.8	43.5	55.5	66.1	64.7	6.3 K
8 K	37.9	39.5	52.5	63.4	61.7	8 K
10 K	39.7	36.4	50.1	60.9	59.1	10 K
12.5 K	41.0	34.7	47.4	60.4	58.2	12.5 K
16 K						16 K
20 K						20 K
LIN						LIN
dB(A)	78.3	63.4	71.0	78.6	77.2	dB(A)
COMMENTS	24 INCHES FROM SCREEN 27 INCHES H1	19 INCHES FROM SIDE PANEL 38 INCHES H1	15 INCHES FROM TRACK 17 INCHES H1	21" FROM COMPRESSOR 14 INCHES H1	15" FROM SIDE PANEL LEFT 23 INCHES H1	COMMENTS

Complete and return to: SP3 / Tico Foley (281) 483-2996

date 12/8/97 — 20 foot Chamber Acoustic Noise — calibration 94.0 on 12/8/97

FREQUENCY ANALYSIS DATA RECORDING SHEET

	12/8/97	12/8/97	12/8/97	12/8/97	12/8/97	
FLOOR	1	1	1	1	1	FLOOR
DESCRIPTION OF LOCATION	PUMP	POTTY FAN	WASTEWATER	AIRLOCK FAN	TREADMILL WALKING	DESCRIPTION OF LOCATION
LOCATION CODE	0	1	2	3	4	LOCATION CODE
memory	0	1	2	3	4	memory
20						20
25	70.6	72.2	96.7	94.8	69.9	25
31.5	71.2	78.3	77.9	73.9	63.1	31.5
40	67.5	78.4	76.6	72.7	57.7	40
50	69.7	68.0	69.7	71.6	56.6	50
63	66.7	68.5	64.1	69.8	55.4	63
80	62.6	61.6	53.0	67.5	66.8	80
100	59.8	58.5	55.2	64.5	69.2	100
125	65.5	64.9	62.6	73.4	69.8	125
160	65.3	61.1	58.2	69.5	59.2	160
200	58.7	59.4	57.7	61.1	56.0	200
250	59.5	56.8	59.9	55.9	55.3	250
315	65.6	59.9	58.7	59.2	56.3	315
400	65.6	60.3	54.1	53.3	55.5	400
500	53.5	56.2	53.0	62.9	59.1	500
630	65.6	57.7	53.2	56.8	54.5	630
800	53.2	59.4	51.2	58.2	58.6	800
1 K	50.5	54.8	48.3	51.2	51.3	1 K
1.25 K	49.2	54.9	49.1	50.4	49.3	1.25 K
1.6 K	47.5	48.5	46.6	48.3	48.7	1.6 K
2 K	43.5	50.5	43.8	46.3	46.5	2 K
2.5 K	46.1	55.7	44.5	47.0	46.3	2.5 K
3.15 K	43.8	45.1	42.8	47.3	47.0	3.15 K
4 K	45.3	43.8	45.1	44.1	45.0	4 K
5 K	41.1	43.6	41.3	40.0	45.0	5 K
6.3 K	39.1	41.1	37.0	35.8	45.8	6.3 K
8 K	35.7	40.9	40.5	34.7	43.7	8 K
10 K	32.2	39.8	32.0	33.0	43.1	10 K
12.5 K	31.6	37.5	31.0	32.4	41.6	12.5 K
16 K						16 K
20 K						20 K
LIN			[illegible]	[illegible]	[illegible]	LIN
dB(A)	62.2	65.9	62.0	65.3	63.5	dB(A)
COMMENTS	17 INCHES FROM CABINET 13 INCHES FROM GROUND	14 INCHES FROM CORNER OF VRA CABINET 44 INCHES HIGH	14.5 INCHES FROM CABINET 54 INCHES HIGH	20 INCHES FROM FAN 57 INCHES FROM FLOOR	12 INCHES FROM TREADS 16 INCHES HIGH	COMMENTS

Complete and return to: SP3 / Tico Foley (281) 483-2996

date 12/9/97 — 20 foot Chamber Acoustic Noise — calibration 94.0 12/9/97

12/9/97 **FREQUENCY ANALYSIS DATA RECORDING SHEET**

FLOOR	2	2	2	2	2	FLOOR
DESCRIPTION OF LOCATION	4 BMS BLOWER	TCCS	ARS x 1	CRS	OGS	DESCRIPTION OF LOCATION
LOCATION CODE	(0)	(1)	(2)	(3)	(4)	LOCATION CODE
memory	**0**	**1**	**2**	**3**	**4**	**memory**
20						20
25	79.1	78.7	72.4	72.6	75.3	25
31.5	86.8	86.4	80.0	79.8	82.6	**31.5**
40	67.4	70.4	70.5	68.6	71.4	40
50	72.6	72.1	67.1	67.2	69.3	50
63	63.4	63.3	57.3	58.1	59.2	**63**
80	59.6	60.8	58.9	57.0	58.3	80
100	65.6	64.3	58.4	58.3	58.4	100
125	69.3	69.5	69.0	69.8	68.7	**125**
160	65.5	66.0	62.5	61.3	61.1	160
200	63.9	62.8	58.1	59.5	59.2	200
250	65.4	65.0	58.0	59.3	58.9	**250**
315	65.7	64.9	58.3	57.9	58.1	315
400	66.9	65.9	59.1	58.6	58.3	400
500	64.8	64.1	56.7	56.5	59.1	**500**
630	67.7	66.9	58.4	58.1	60.8	630
800	65.0	64.6	57.2	58.5	59.8	800
1 K	65.8	65.1	57.2	62.4	62.5	**1 K**
1.25 K	68.9	69.8	57.8	58.6	59.2	1.25 K
1.6 K	65.7	64.8	58.1	58.4	58.8	1.6 K
2 K	64.7	63.8	55.0	55.7	56.4	**2 K**
2.5 K	67.3	66.3	60.5	59.5	59.7	2.5 K
3.15 K	65.5	64.4	54.7	54.6	55.8	3.15 K
4 K	67.5	66.4	55.6	55.3	56.6	**4 K**
5 K	65.8	64.6	53.5	53.8	54.7	5 K
6.3 K	64.9	63.9	52.1	52.0	55.8	6.3 K
8 K	62.8	61.6	49.6	57.1	55.9	**8 K**
10 K	60.1	58.9	46.8	46.5	47.2	10 K
12.5 K	59.4	58.2	43.8	47.0	47.0	12.5 K
16 K						**16 K**
20 K						20 K
LIN						**LIN**
dB(A)	77.8	76.8	68.1	68.6	70.1	**dB(A)**
COMMENTS	24 INCHES TO BLOWER 36 INCHES OFF FLOOR	18 INCHES FROM TCCS INLET 18 INCHES OFF FLOOR	18 INCHES FROM BACK OF CABINET, 18" OFF FLOOR	24 INCHES FROM BACK OF CABINET 35" OFF FLOOR	20" FROM OGS BACK PLANE 32" OFF FLOOR	COMMENTS

Complete and return to: SP3 / Tico Foley (281) 483-2996

date 12/9/97

20 foot Chamber Acoustic Noise

calibration 94.0 ON 12/9/97

Checked w/SLM

FREQUENCY ANALYSIS DATA RECORDING SHEET

FLOOR	2	2	2	2	2	FLOOR
DESCRIPTION OF LOCATION	TCCS FAN	ITCS	LIGHT BACKUP	4 BMS	4 BMS ACCUMULATOR	DESCRIPTION OF LOCATION
LOCATION CODE	(5)	(6)	(7)	(8)	(9)	LOCATION CODE
memory	5	6	7	8	9	memory
20						20
25	74.9	74.4	74.1	74.1	75.3	25
31.5	82.1	81.8	81.5	81.5	82.6	31.5
40	71.8	71.3	70.6	70.1	70.2	40
50	67.9	67.4	67.0	66.6	67.3	50
63	59.3	58.9	59.3	60.3	60.6	63
80	58.2	58.1	58.1	58.6	59.0	80
100	59.3	59.2	59.9	59.9	59.1	100
125	70.1	69.9	69.7	69.5	69.3	125
160	61.5	61.3	61.6	61.5	61.3	160
200	59.6	59.1	59.0	59.5	59.4	200
250	59.5	60.2	60.4	61.2	61.3	250
315	59.3	59.6	60.3	61.2	60.9	315
400	58.6	59.2	59.7	59.8	59.9	400
500	59.1	59.4	59.8	60.0	60.2	500
630	62.3	62.6	62.5	62.5	62.3	630
800	60.3	61.0	61.4	61.5	61.2	800
1 K	62.1	62.5	62.9	63.0	62.7	1 K
1.25 K	60.1	61.3	61.5	62.0	61.7	1.25 K
1.6 K	58.9	59.5	60.1	60.7	60.5	1.6 K
2 K	57.0	58.1	59.1	59.4	59.2	2 K
2.5 K	60.1	61.0	62.2	62.4	62.0	2.5 K
3.15 K	56.5	57.8	58.8	59.2	58.9	3.15 K
4 K	57.1	58.4	59.5	60.0	59.7	4 K
5 K	55.3	56.6	57.7	58.3	58.1	5 K
6.3 K	55.8	56.7	57.3	57.7	57.5	6.3 K
8 K	55.3	55.5	56.1	56.4	56.0	8 K
10 K	48.9	50.0	51.5	50.2	50.0	10 K
12.5 K	47.1	48.5	50.7	51.0	50.7	12.5 K
16 K						16 K
20 K						20 K
LIN	[redacted]					LIN
dB(A)	70.4	71.3	71.8	72.1	71.9	dB(A)
COMMENTS	15 INCHES FROM FAN 26 inches OFF FLOOR	24 INCHES FROM CABINET 24 INCHES OFF FLOOR	24 INCHES FROM CABINET 24 INCHES OFF FLOOR	22 INCHES FROM CABINET 26 INCHES OFF FLOOR	6 INCHES FROM ACCUMULATOR 19 INCHES FROM FLOOR	COMMENTS

Complete and return to:

SP3 / Tico Foley ©

(281) 483-2996

date 12/9/97 — 20 foot Chamber Acoustic Noise — calibration 94.0 ON 12/9/97

FREQUENCY ANALYSIS DATA RECORDING SHEET

FLOOR	2	2	3	3	3	FLOOR
DESCRIPTION OF LOCATION	ARS CABINET	EXERCISE BIKE	TOP OF STAIRS	MIDDLE OF HALL	BED. ROOM	DESCRIPTION OF LOCATION
LOCATION CODE	[0]	[1]	[2]	[3]	[4]	LOCATION CODE
memory	X 0	X 1	X 2	X 3	X 4	memory
20						20
25	74.8	74.5	74.0	73.6	58.5	25
31.5	82.1	81.8	81.4	81.0	64.5	31.5
40	70.1	69.8	69.5	69.1	56.8	40
50	67.2	66.9	66.5	66.2	57.6	50
63	60.7	60.7	60.3	60.0	53.4	63
80	58.8	58.7	58.3	58.1	48.6	80
100	59.0	59.0	58.8	58.5	46.8	100
125	69.1	69.1	68.8	68.5	42.0	125
160	61.3	61.3	61.4	61.1	42.1	160
200	59.5	59.5	59.1	58.8	42.0	200
250	61.7	61.8	61.4	61.1	42.1	250
315	60.8	61.0	60.7	60.3	36.1	315
400	59.6	60.2	59.9	59.5	42.1	400
500	60.1	60.0	59.7	59.3	34.7	500
630	62.7	62.0	61.6	61.3	32.4	630
800	61.1	61.0	60.6	60.3	31.6	800
1 K	62.6	62.4	62.0	61.6	u	1 K
1.25 K	61.7	61.7	61.3	61.1	u	1.25 K
1.6 K	60.4	60.5	60.1	59.7	u	1.6 K
2 K	59.2	59.5	59.1	58.7	u	2 K
2.5 K	62.0	62.2	61.8	61.5	u	2.5 K
3.15 K	59.1	59.2	58.8	58.5	u	3.15 K
4 K	59.6	59.7	59.4	59.0	u	4 K
5 K	58.1	58.2	57.8	57.5	u	5 K
6.3 K	57.4	57.5	57.1	56.8	u	6.3 K
8 K	55.8	55.8	55.4	55.1	u	8 K
10 K	51.8	51.8	51.4	51.1	u	10 K
12.5 K	50.4	50.2	49.8	49.5	u	12.5 K
16 K						16 K
20 K						20 K
LIN						LIN
dB(A)	71.8	72.0	71.6	71.3	42.3	dB(A)
COMMENTS	18.0 IN FROM FRONT 22.0 INCHES HIGH	16 IN FROM FRONT OF BIKE 22.0 INCHES FROM FLOOR	EVEN W/ TOP STAIR POINTING DOWN 15 IN. OFF FLOOR	22.0 IN. FROM FLOOR 39 INCHES FROM BANNISTER	24 IN FROM FLOOR IN FRONT OF DESK DOOR CLOSED	COMMENTS

Complete and return to: SP3 / Tico Foley (c) (281) 483-2996

FIRST FLOOR FREQUENCY ANALYSIS NOISE STUDY

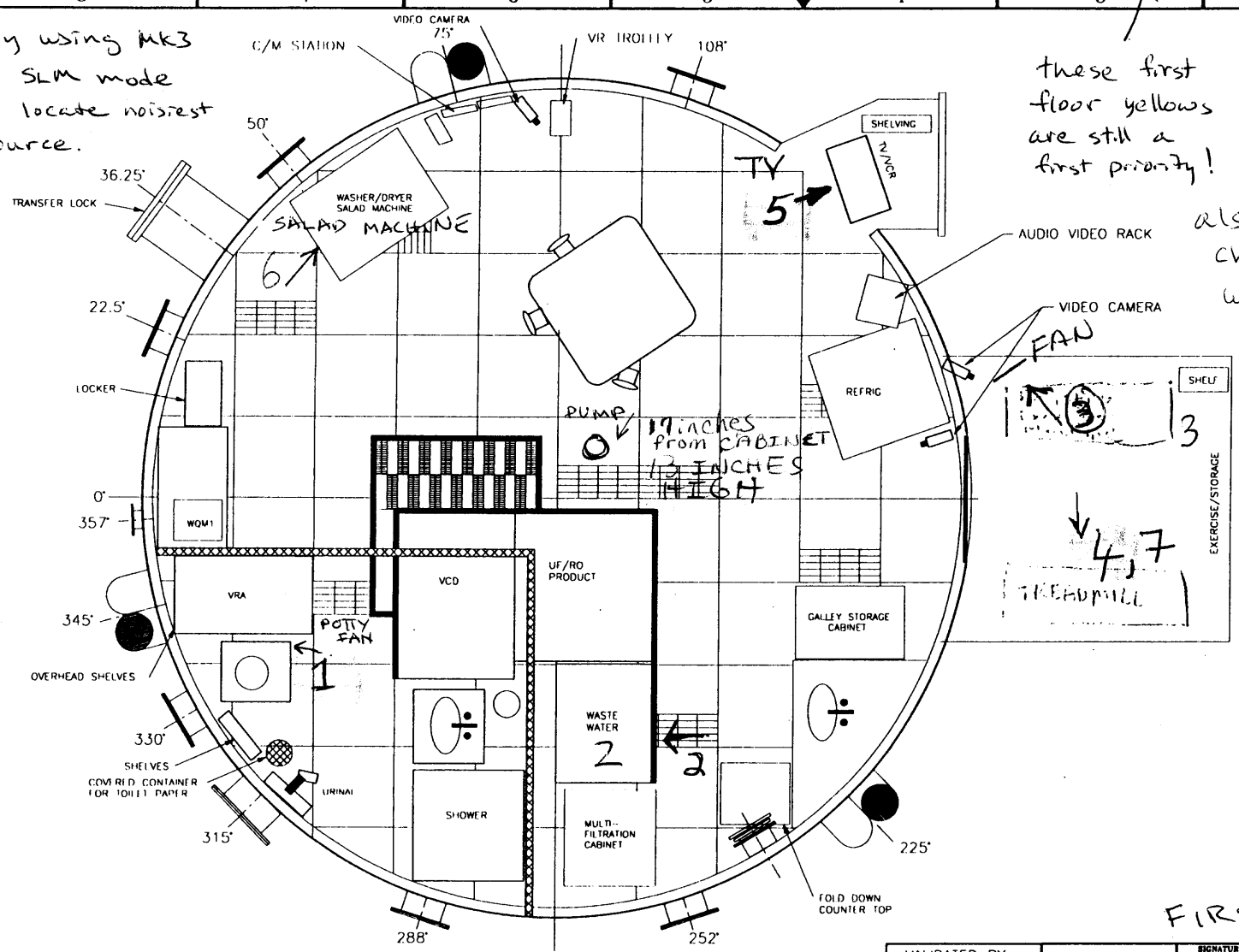
try to put microphone 2ft from, pointing at loudest noise source. describe location including height from "ground" and distance from source. also please draw an arrow to indicate mike direction.

3 do first priority

4 do later if there is time and memory, or on second day

these first floor yellows are still a first priority!

try using MK3 in SLM mode to locate noisiest source.



LTR	ZONE	REVISION	DATE	EQUIP TYPE	APPROVAL
A	ALL	INITIAL RELEASE PER CCO #H-1022 LDG	2/10/92		[illegible]
B		REVISED PER CCO #H-1252 R.C.	4/20/95		J. Nipper
C		REVISED PER CCO #H-1321 R.C.	3/20/96		D. Pontani
D		REVISED PER CCO #H-1344 R.C.	6/7/96		D. Pontani
E		REVISED PER CCO #H-1356 D.S.	10/16/96		B. Staal
F		REVISED PER CCO# H-1367 LG	1/6/97		B. Staal
G		REVISED PER CCO# H-1369 D.S	3/27/97		B. Staal
H		REVISED PER CCO# H-1378 D.S	6/24/97		B. Staal
I		REVISED PER CCO# H-1379 D.S	7/1/97		B. Staal
J		REVISED PER CCO# H-1383 D.S	6/16/97		

also feel free to choose other locations where your ear (or other ears) spends the most time.

AIR LOCK FANS

please mark any added locations

TREADMILL WHILE IN OPERATION

4 = Walk

7 = Jog

FIRST FLOOR

LMLSTP PHASE III

"E.O. REQUIRED FOR [illegible] CHANGE."

VALIDATED BY:	
INITIAL RELEASE CCO SIGNED	
HISTORY CARD/NO OPEN DD'S	

NEXT ASS'Y

EQUIPMENT TYPE
☐ FLT HDWR ☐ OTHER (SPECIFY)
☐ GSE WITH I/F TO FLT HDWR

SIGNATURES	DATE
DR [illegible]	2/10/92
ENG R. Bradfield	2/18/92
CH	
APP	
QE	
MATL	
STRESS	
AUTH [illegible]	2/19/92

NATIONAL AERONAUTICS & SPACE ADMINISTRATION
LYNDON B. JOHNSON HOUSTON, TEXAS

GENERAL ARRANGEMENT, BLDG. 7 - 20 FT. CH. (FIRST FLOOR)

CODE IDENT NO.	SIZE	DWG NO.	REV.
21356	D	H[illegible]153000	J

SCALE 1/15" = 1' CD2[illegible] SHEET 1/3

SECOND FLOOR

FREQUENCY ANALYSIS NOISE STUDY

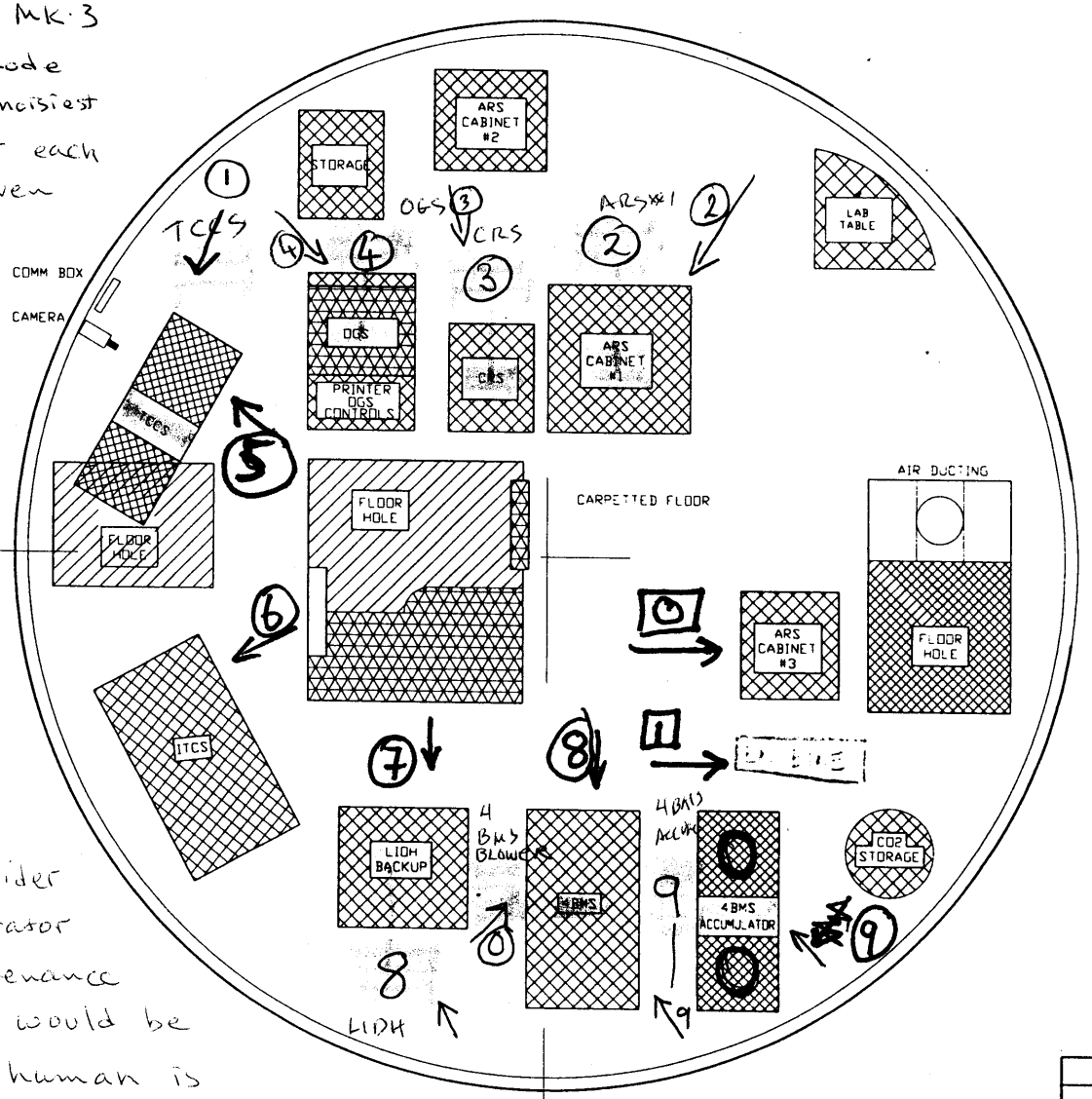
try to put microphone 2 ft from, pointing at loudest noise source. describe location including height from "ground/floor" and distance from source. also please draw an arrow to indicate mike direction.

7 do first priority

7 to 5

try using MK-3 in SLM mode to locate noisiest source. for each of the seven pieces of equipment while operation is on.

for yellow locations also consider where operator or maintenance activities would be when a human is working with a machine.



LMLSTP PHASE III

SECOND FLOOR

LTR	ZONE	REVISION	DATE	EQUIP TYPE	APPROVAL
A		INITIAL RELEASE PER CCO#H-1022 CDG	2/1/91		R Brailsford
B		REVISED PER CCO# H-1061 TD	6/3/91		R Brailsford
C		REVISED PER CCO #H-1322 RC	3/3/92		D Parsons
D		REVISED PER CCO #H-1345 RC	6/1/92		D Parsons
E		REVISED PER CCO #H-1355 DS	9/1/92		Bland
F		REVISED PER CCO #H-1366 LG	10/92		Bland
G		REVISED PER CCO #H-1370 DS	11/92		

SIGNATURES		DATE
DR	Frank M. Bailey	2/18/92
ENG	R. Brailsford	2/18/92
CH	R. Brailsford	2/18/92
APP		
QE		
MATL		
STRESS		
AUTH	Bob Brailsford	2/25/92
PRESSURE SYSTEMS		

VALIDATED BY:
INITIAL RELEASE CCO SIGNED
HISTORY CARD/NO OPEN DO'S

EQUIPMENT TYPE
☐ FLT HDWR ☐ OTHER (SPECIFY)
☐ GSE WITH I/F TO FLT HDWR

NEXT ASS'Y

NATIONAL AERONAUTICS & SPACE ADMINISTRATION
LYNDON B. JOHNSON HOUSTON, TEXAS

GENERAL ARRANGEMENT, BLDG 7/20FT CHBR (SECOND FLOOR)

CODE IDENT NO.	SIZE	DWG NO.	REV.
21356	D	H01-M53000	G

SCALE NONE CD26 SHEET 2 OF 3

"EO REQUIRED ? DRAWING CHANGE"

THIRD FLOOR FREQUENCY ANALYSIS NOISE STUDY

try to put microphone 2 ft from and pointing at noise source, describe location including height from "ground/floor" and distance from source. also please draw an arrow to indicate mike direction.

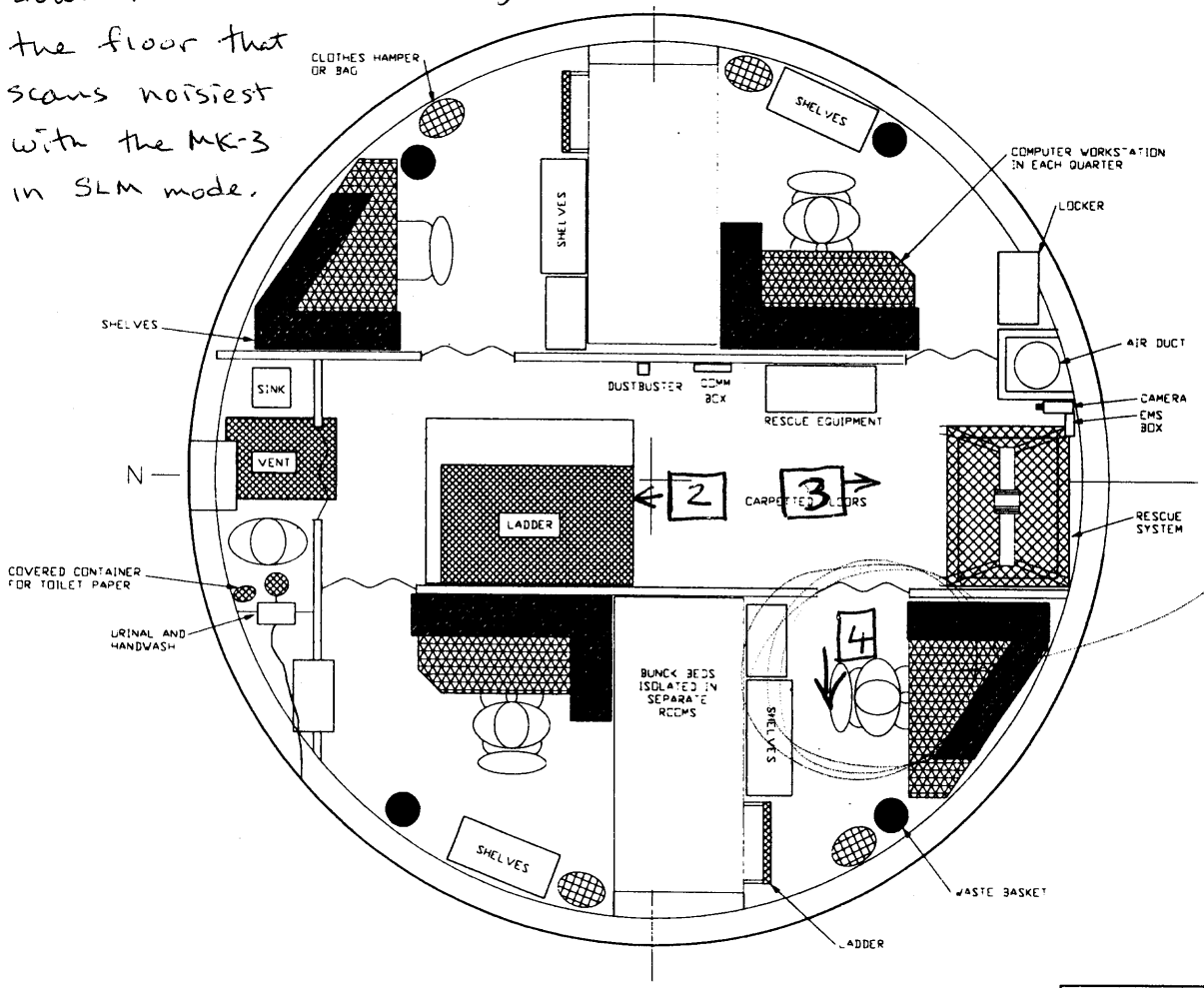
(lowest priority)
do later if there is time and memory, or on second day

1

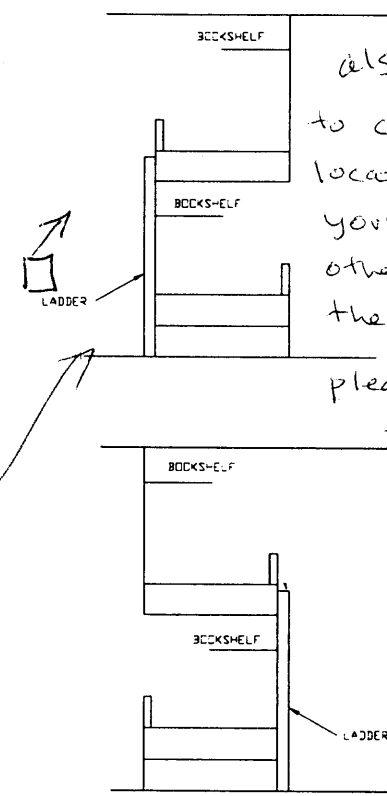
in this case maybe just point microphone in direction down the ladder at height off the floor that scans noisiest with the MK-3 in SLM mode.

scan for noisiest spot at top of ladder

LTR	ZONE	REVISION	DATE	EQUIP TYPE	APPROVAL
A		INITIAL RELEASE PER CCO# H-1022 EDG	2/14/92		R. Bradfield
B		REVISED PER CCO# H-1062 FG	1/28/92		R. Bradfield
C		REVISED PER CCO #H-1323 RC	3/26/96		D. Parvani
D		REVISED PER CCO #H-1346 RC	6/17/96		B. Sleal
E		REVISED PER CCO #H-1381 LG	1/16/97		



LMLSTP PHASE III



also feel free to choose other locations where your ear (or other ears) spends the most time.

please mark these locations

THIRD FLOOR

SIGNATURES	DATE
DR Claus D. Glover	2/18/92
ENG R. Bradfield	2/18/92
CH R. Bradfield	2/18/92
APP	
QE	
MATL	
STRESS	
AUTH Dale Painter	2/25/92
PRESSURE SYSTEMS	

VALIDATED BY:
INITIAL RELEASE CCO SIGNED
HISTORY CARD/NO OPEN DD'S

NEXT ASS'Y

EQUIPMENT TYPE
☐ FLT HDWR ☐ OTHER (SPECIFY)
☐ GSE WITH I/F TO FLT HDWR

NATIONAL AERONAUTICS & SPACE ADMINISTRATION
LYNDON B. JOHNSON HOUSTON, TEXAS

GENERAL ARRANGEMENT, BLDG 7/20FT CHBR (THIRD FLOOR)

CODE IDENT NO.	SIZE	DWG NO.	REV.
21356	D	H01 000	E

SCALE NONE CD20 SHEET 3 OF 3

"EO REQUIRED R DRAWING CHANGE"