



GALAXY 51 “DEV’S ROOM” LAYOUT, ACOUSTIC TREATMENT & MONITORING

Dave Williams aka Krakadon

1707 NW 36th Ave Camas, WA 98607 – July 8TH, 2024

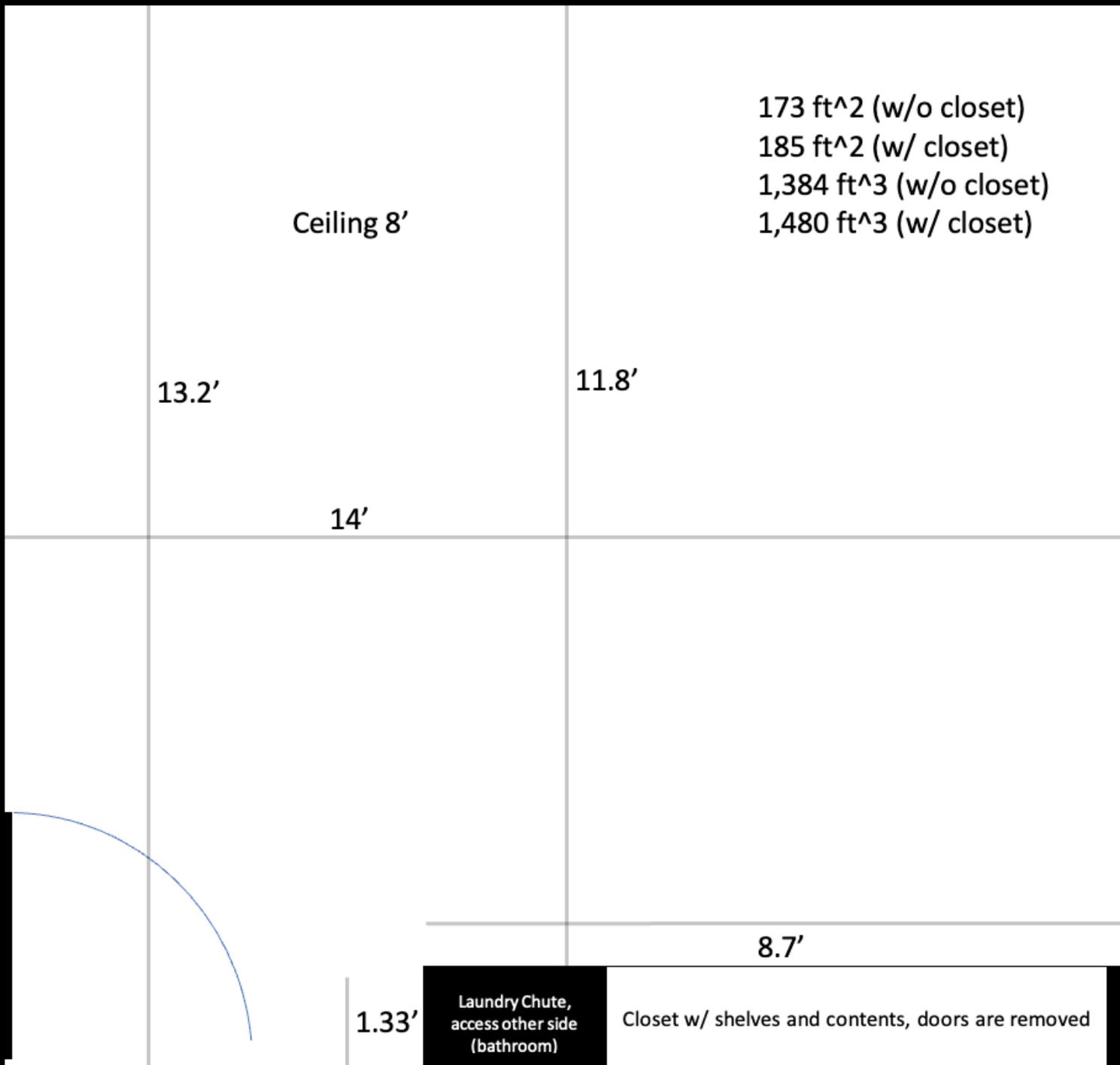


THE STORY

I built this bedroom project studio intended for professional composition, tracking and stereo mixing. The room was completed, but shortly thereafter a flood in the house required that the studio be disassembled, and that the room be stripped down to studs and sub-floor. I'm planning the rebuild and would like to making some improvements to the acoustic treatment and monitoring to optimize frequency response and accuracy/translation of mixes.

ROOM DESCRIPTION

Upstairs bedroom, one door and one window, on one wall a wide closet the protrudes into the room with doors removed, vinyl plank flooring, wainscot and chair rail moldings, knock-down finished ceiling

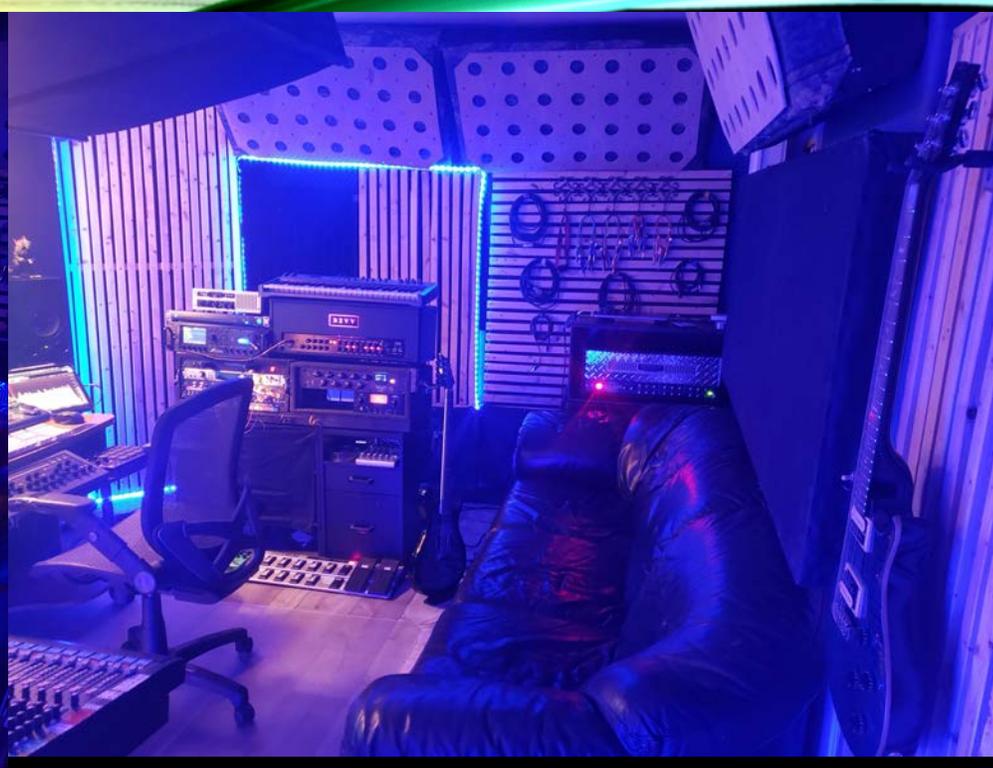
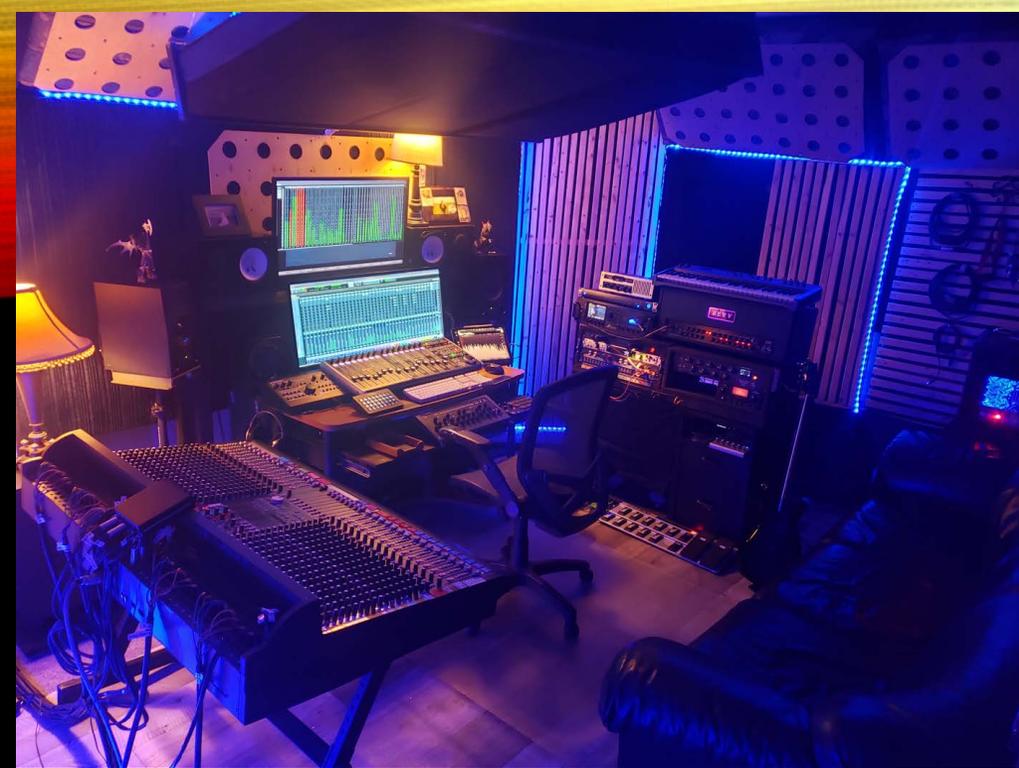




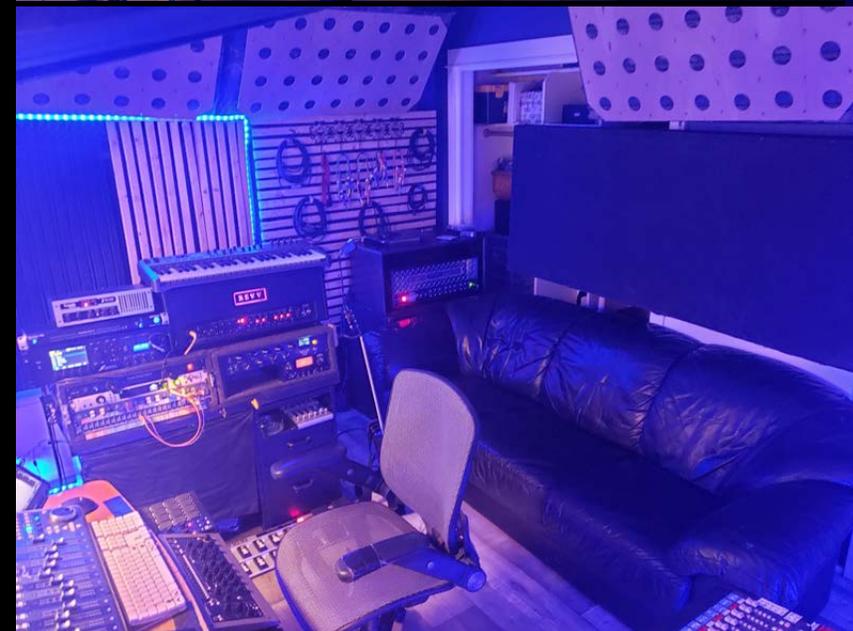
ROOM PICTURES

Note – Carpet has been replaced with vinyl plank flooring, closet doors are removed





PRE-
FLOOD

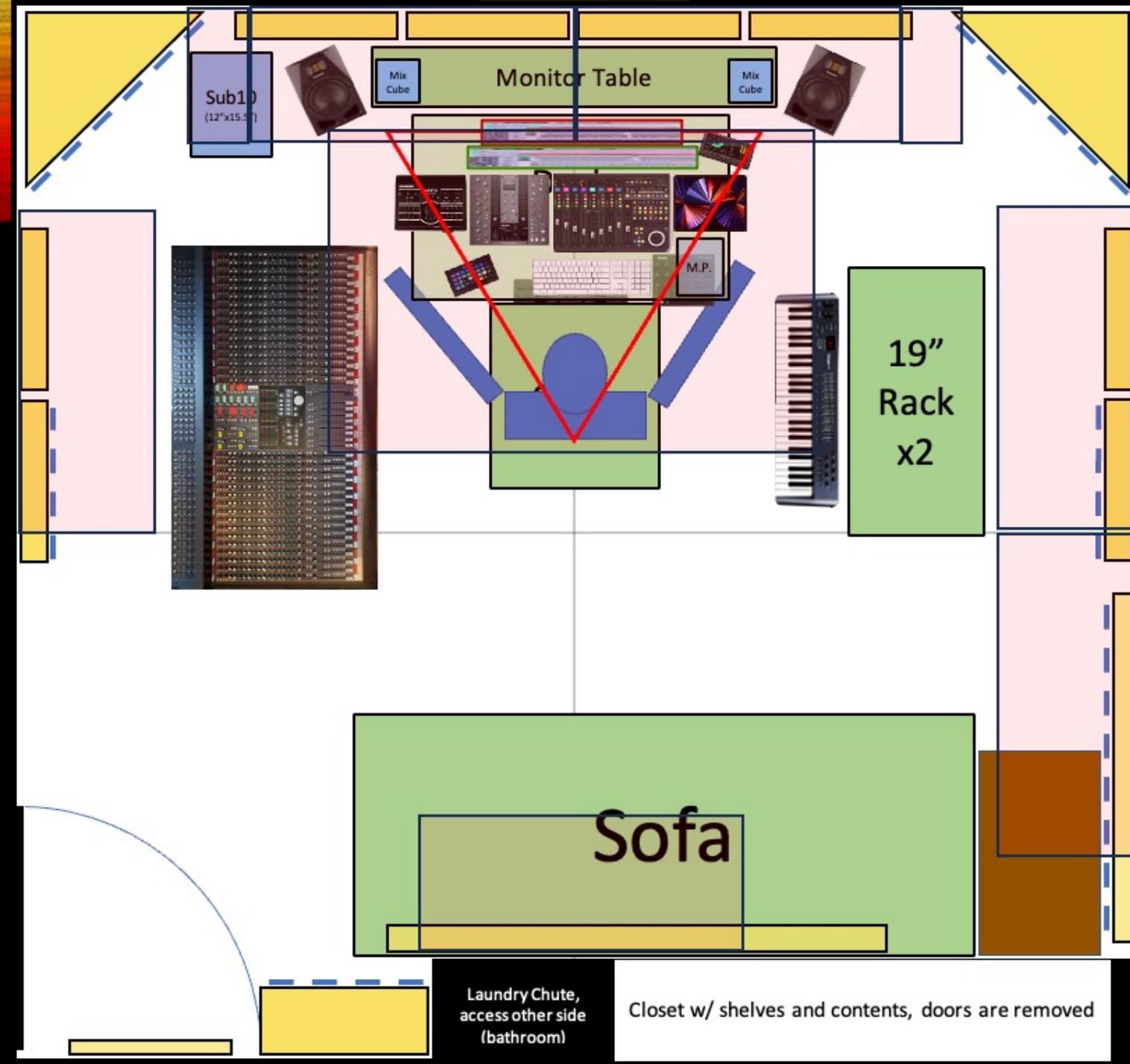




ROOM TODAY

Will be restored to be as before (insulation, drywall, wainscot), but carpet will be replaced with vinyl plank flooring (could be a different material if there is an acoustic benefit).

ROOM LAYOUT (PRE-FLOOD)



ROOM LAYOUT (PLANNED)

Not many changes planned. Would like to upgrade treatment and maybe improve monitoring but looking for input from experts.

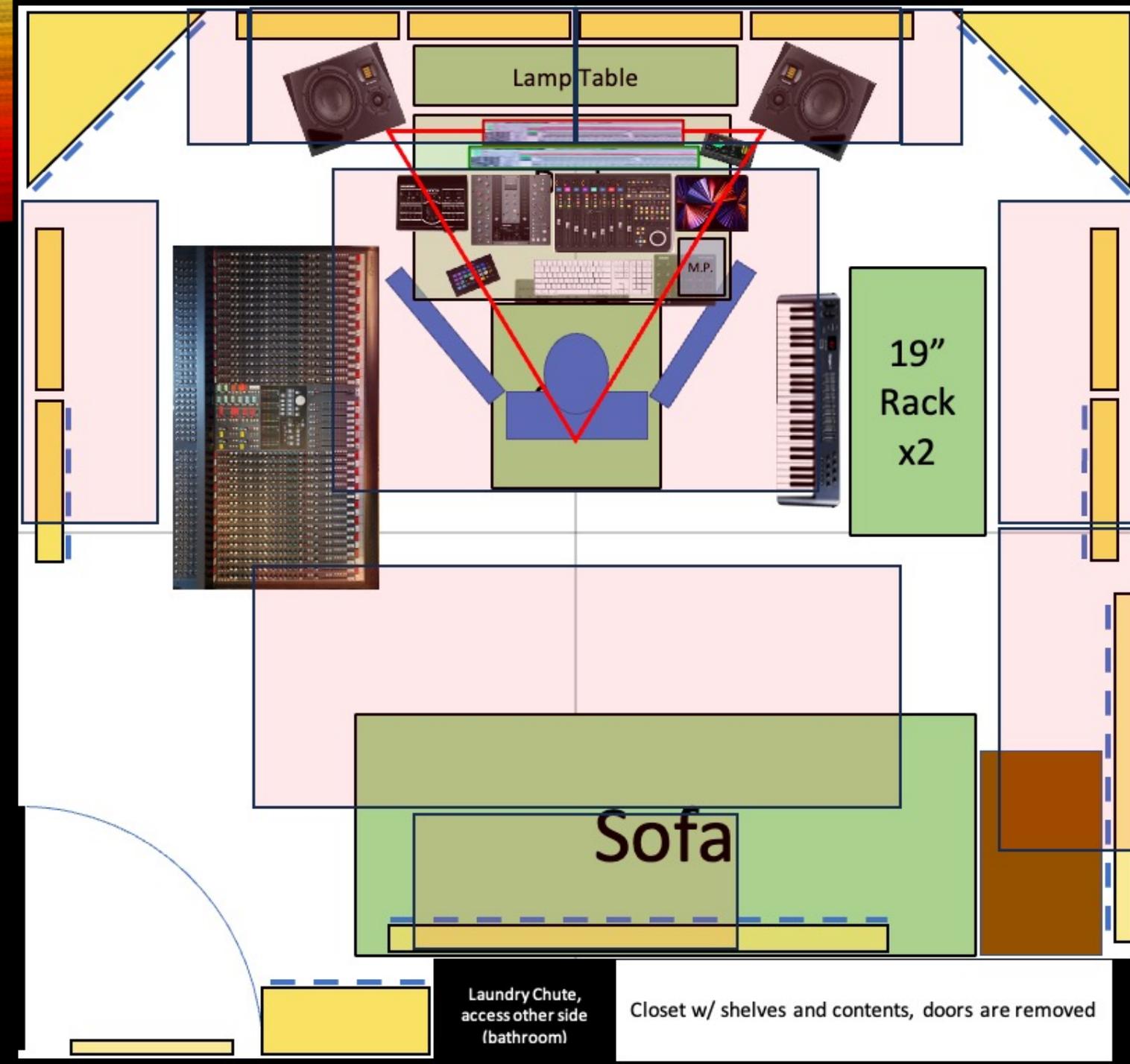
Thinking about making monitor/lamp table narrower since I sold my NS-10s so the mid-fields can now be closer together.

Will move side broadband absorbers off walls a few inches.

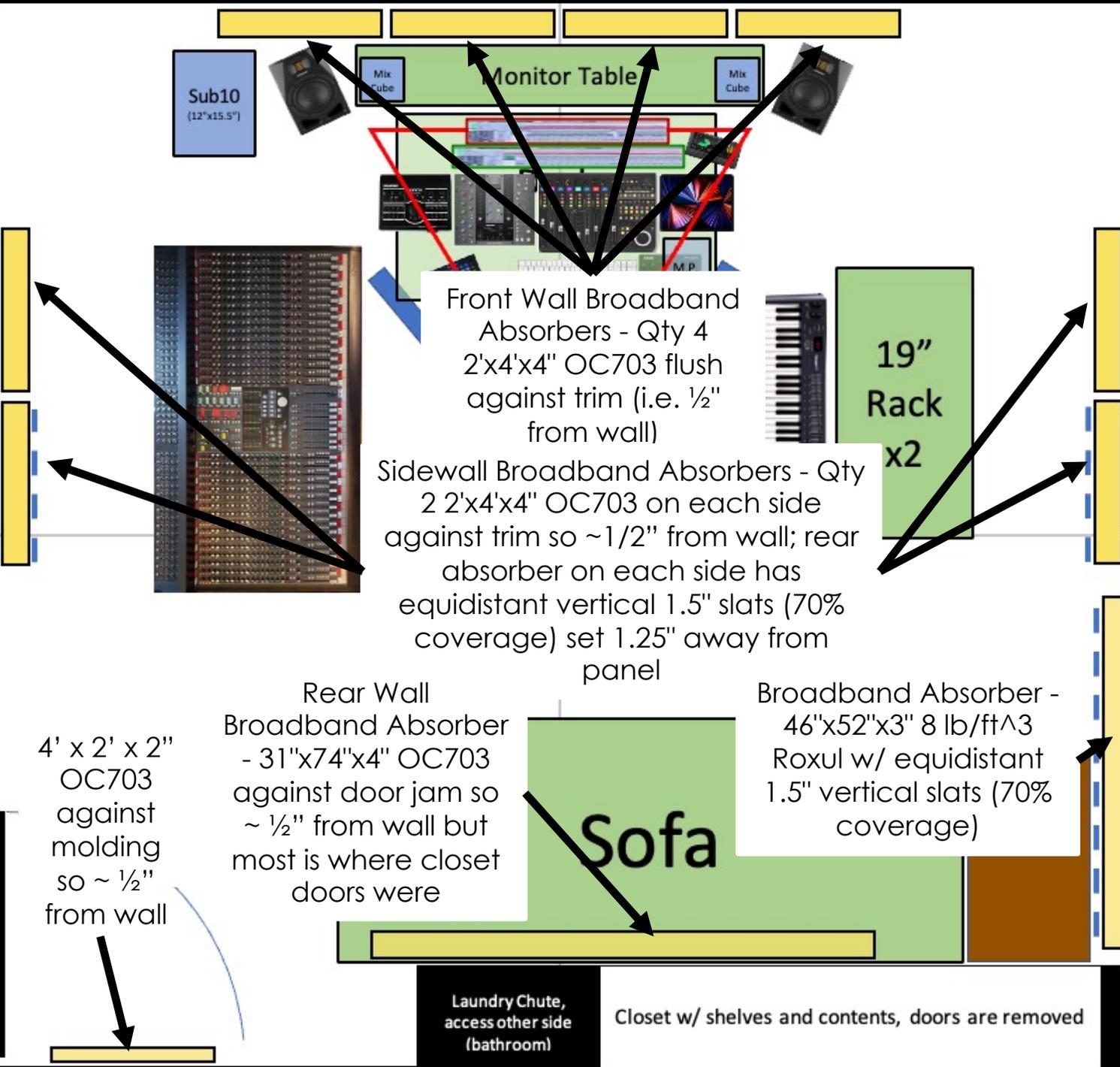
Will change out material in bass traps from OC703 to Knauf ECOSE 1.6 lb.

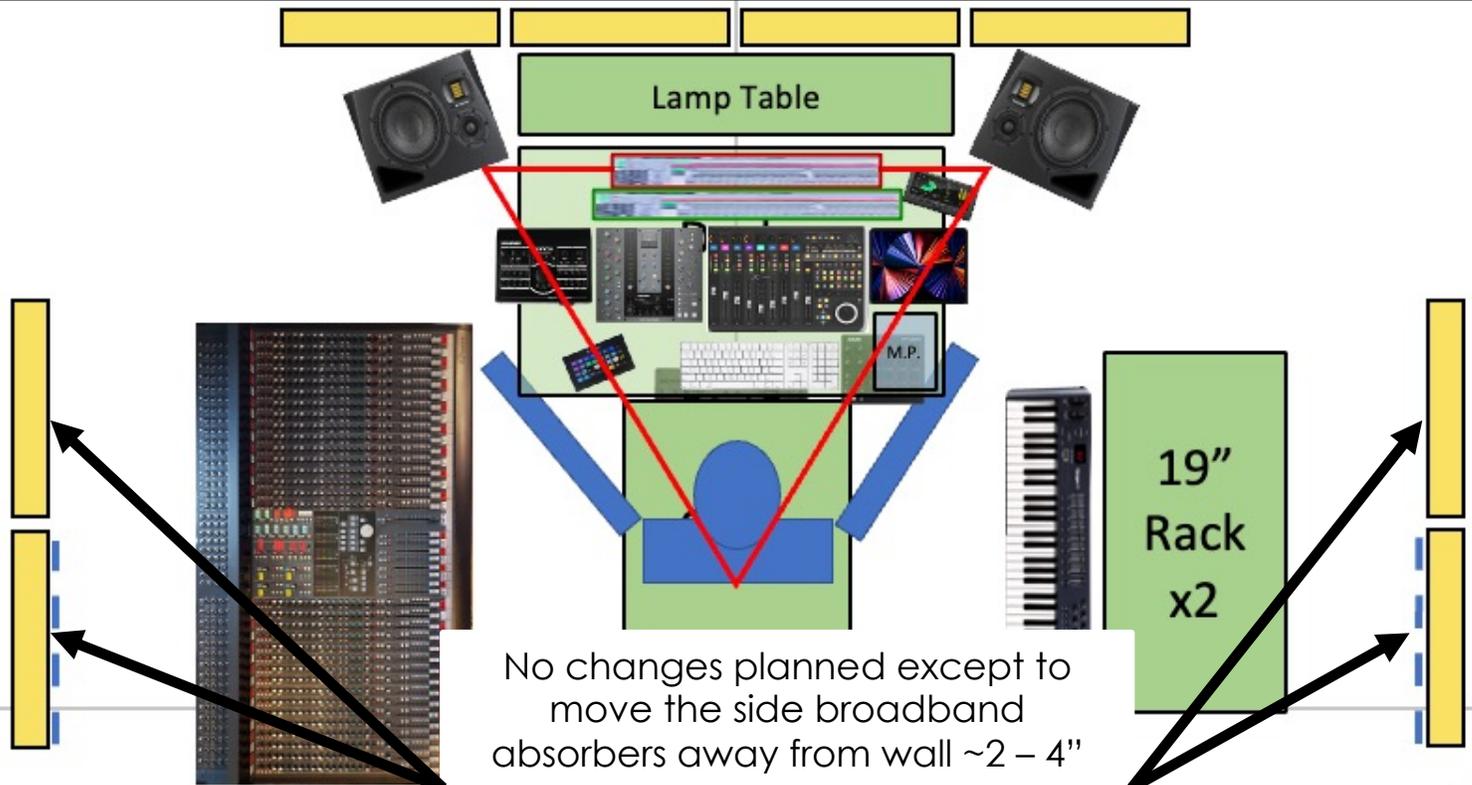
Considering second cloud for back of room.

Considering some kind of diffusion and/or maybe a way to get RT60/RT30/Topt up a little.



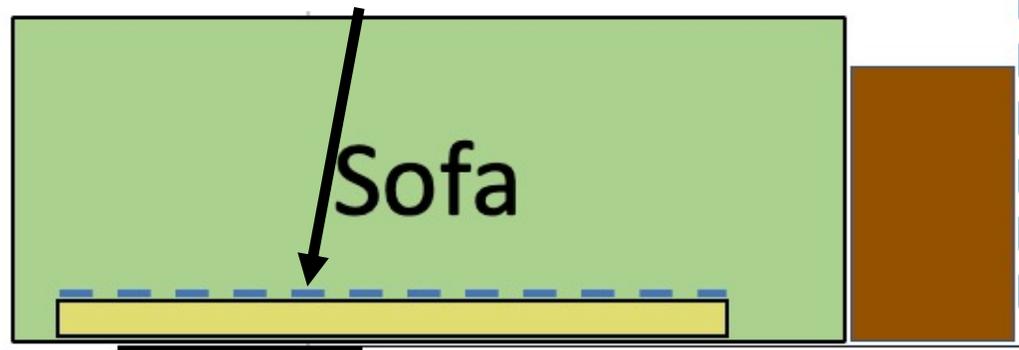
BROADBAND ABSORPTION (PRE-FLOOD)





No changes planned except to move the side broadband absorbers away from wall ~2 - 4"

Plan to add slats to front of rear panel



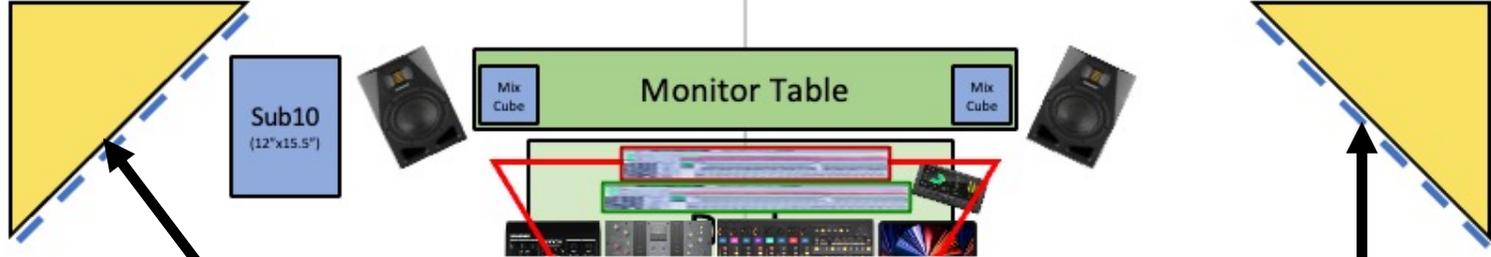
Laundry Chute, access other side (bathroom)

Closet w/ shelves and contents, doors are removed

BROADBAND ABSORPTION (PLANNED)



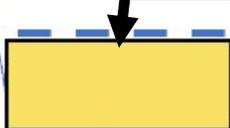
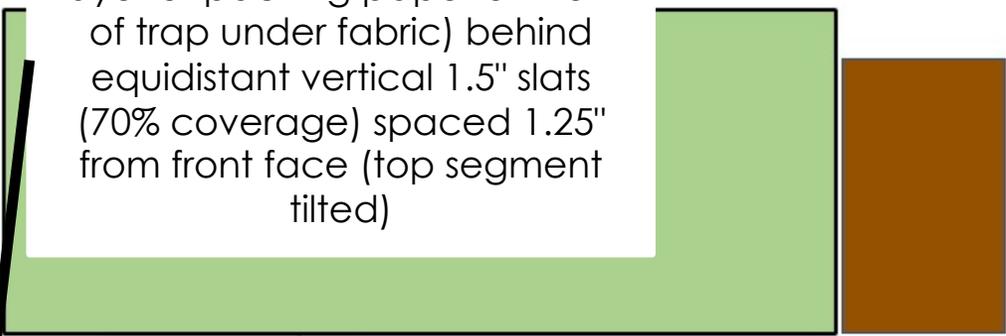
BASS TRAPS (PRE-FLOOD)



Front Corner Bass Traps - 8' "Superchunk" traps - stacked 24"x24"x34" OC703 triangles (very thin layer of packing paper on front of traps under fabric) (molding and frames each add 1/2" so they sit 1" off of the walls) behind equidistant 1.5" vertical slats (70% coverage) spaced 1.25" from front face

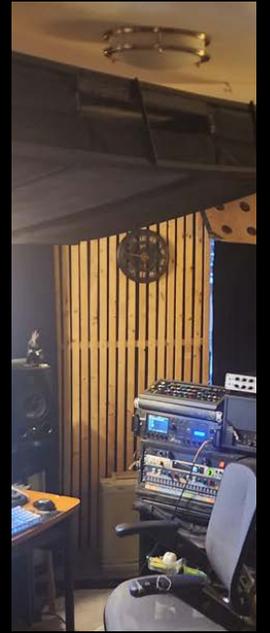


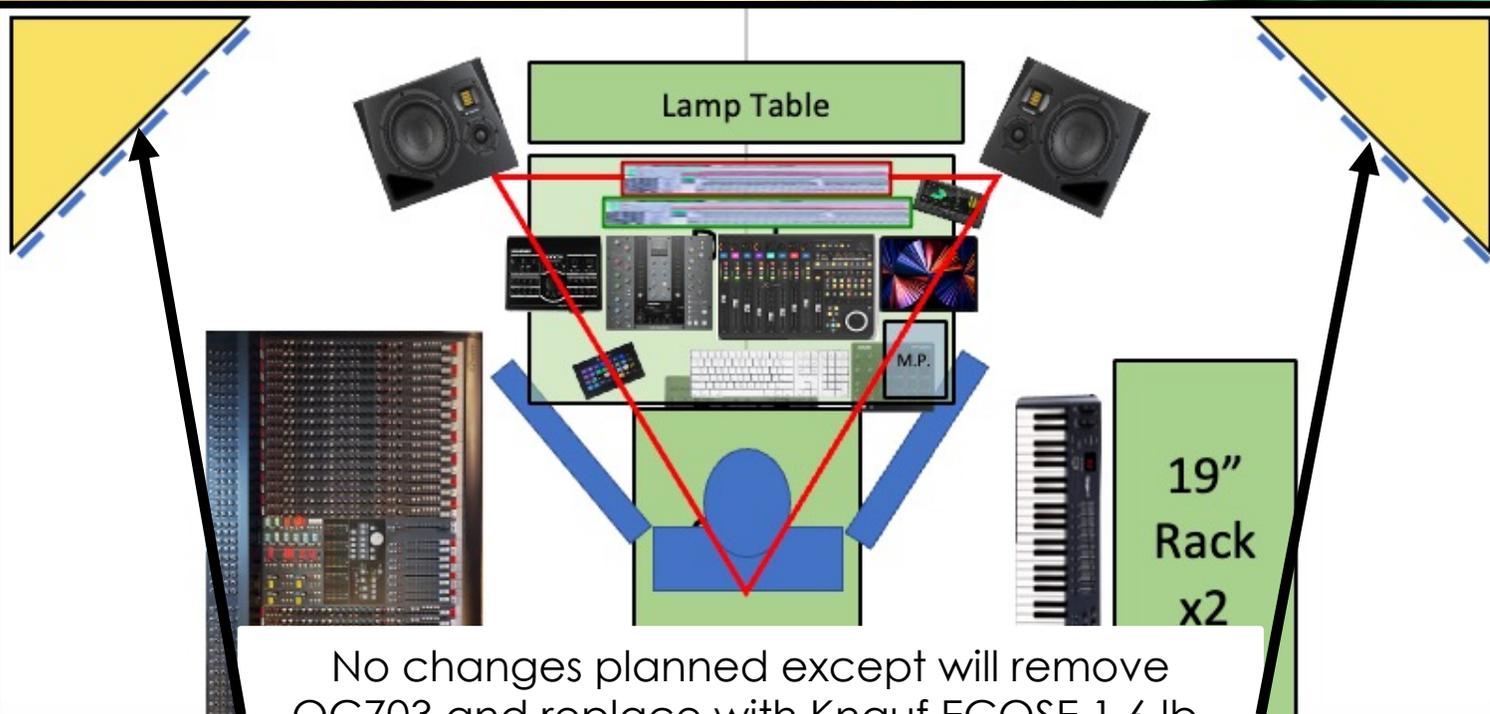
Left Rear Corner Bass Trap - 6'1"x2'x1' deep OC703 (very thin layer of packing paper on front of trap under fabric) behind equidistant vertical 1.5" slats (70% coverage) spaced 1.25" from front face (top segment tilted)



Laundry Chute, access other side (bathroom)

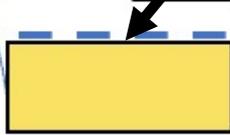
Closet w/ shelves and contents, doors are removed



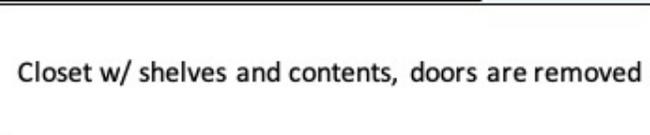


No changes planned except will remove OC703 and replace with Knauf ECOSE 1.6 lb.

Salvaged OC703 will go into 2nd ceiling cloud, and some will be shredded into low density "fluff" to go behind wall/ceiling corner traps.



Laundry Chute, access other side (bathroom)

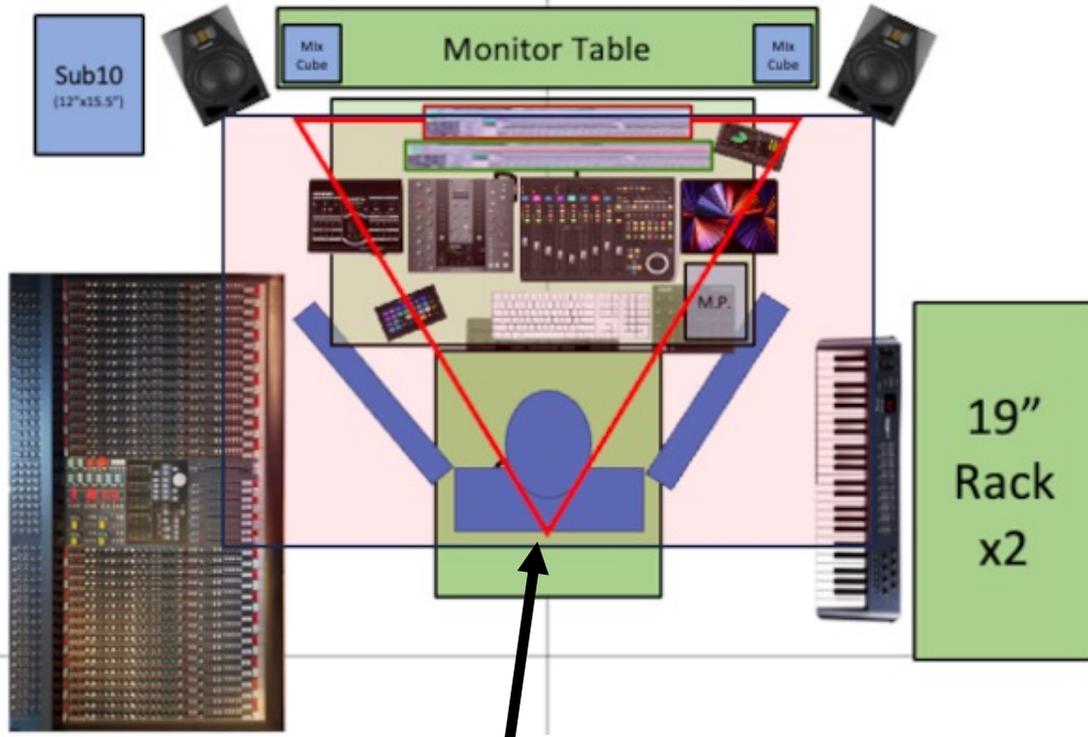


Closet w/ shelves and contents, doors are removed

BASS TRAPS (PLANNED)



CEILING TREATMENT (PRE-FLOOD)

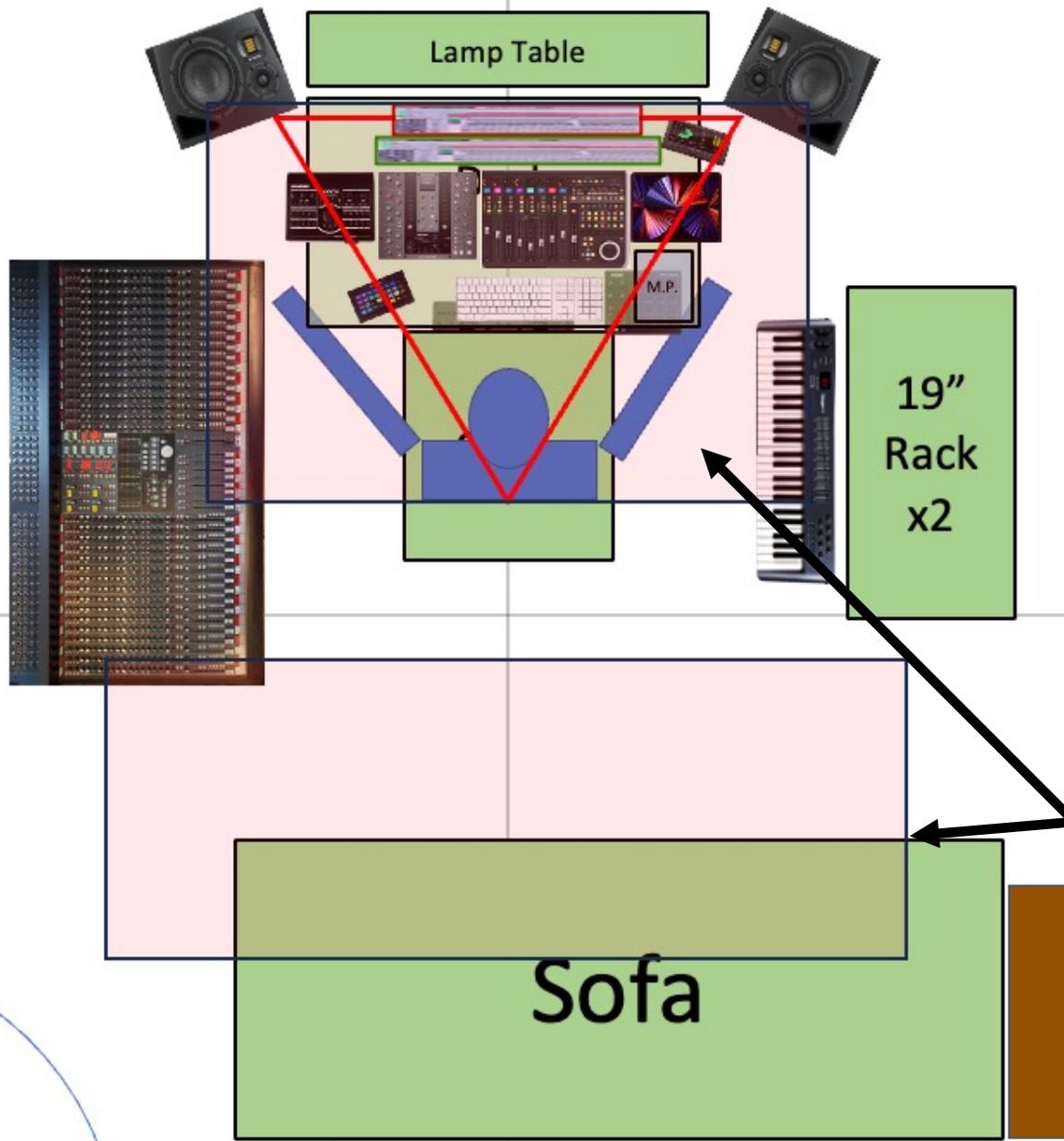


Ceiling cloud - Qty 5 2'x4'x4" OC703 in "Ready Bags" collected in a frame so left & right side are 8" thick and center part is 4" thick, total cloud is 4' x 6' with 1/4" backing board suspended from ceiling angled downwards from the center towards the front wall

Laundry Chute,
access other side
(bathroom)

Closet w/ shelves and contents, doors are removed



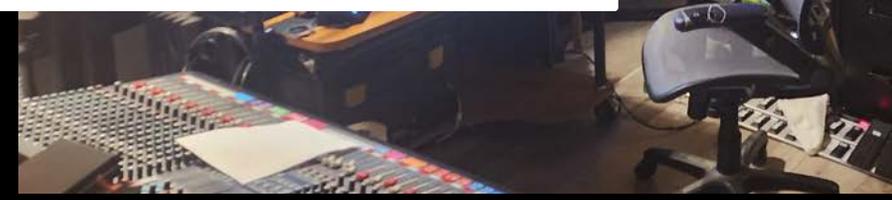


CEILING TREATMENT (PLANNED)



Front ceiling cloud – 4' X 6' X 8" OC703 in frame with 1/4" backing board angled down from the center towards the front (requires increasing qty. 5 to qty. 6 2' x 4' x 4" panel)

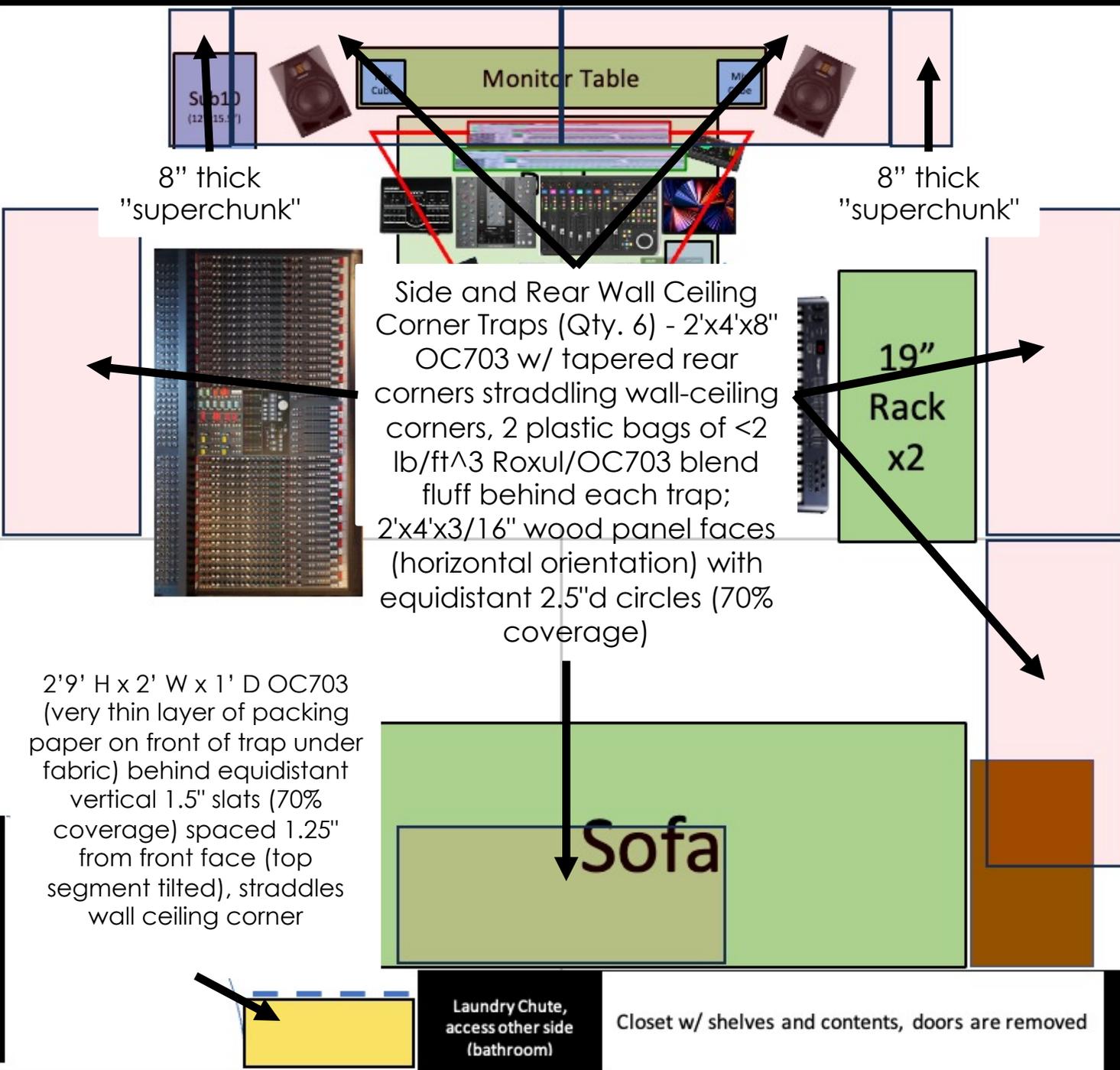
Rear ceiling cloud – 3' x 8' x 8" OC703 ~6 – 12" from ceiling



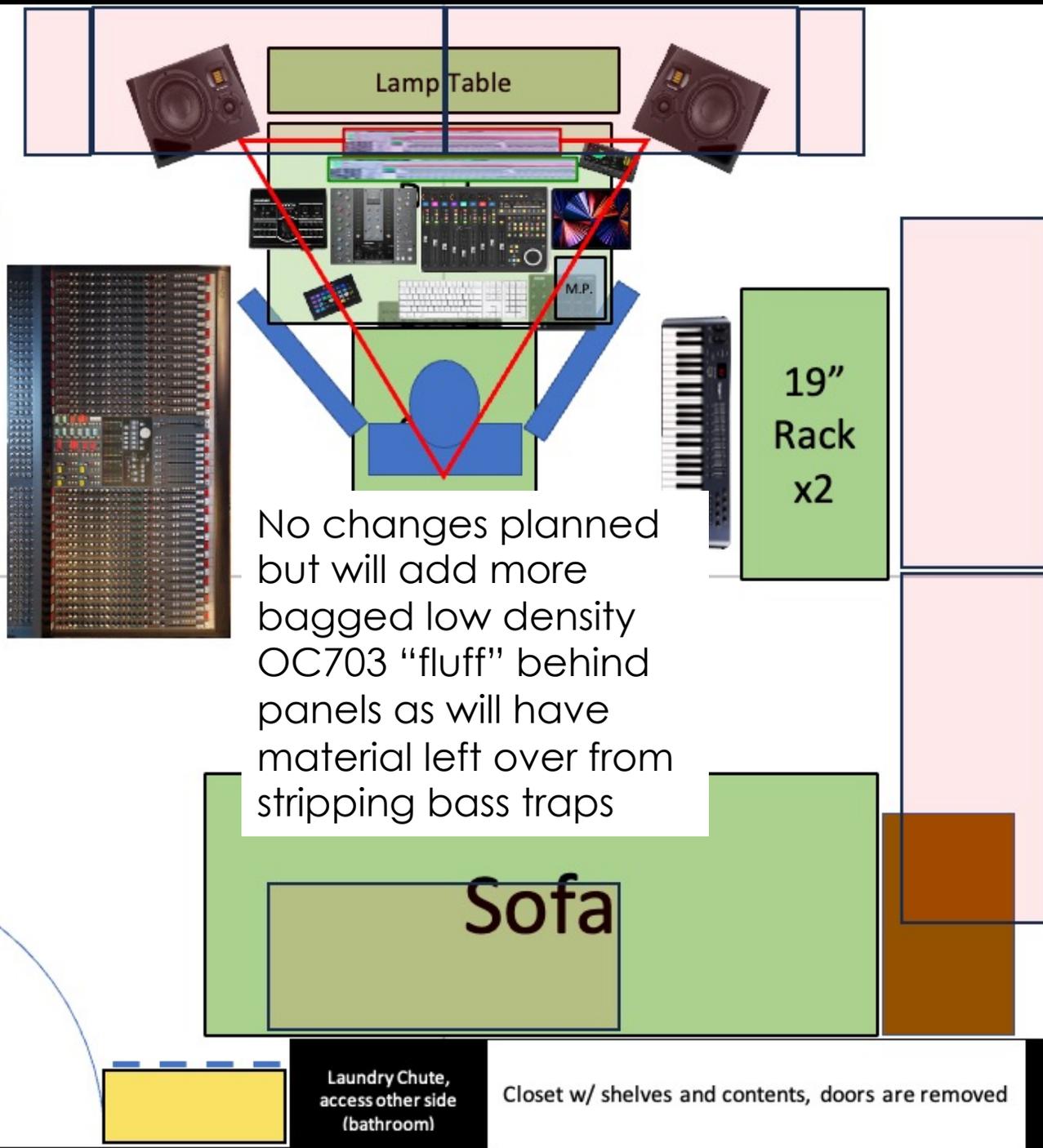
Laundry Chute, access other side (bathroom)

Closet w/ shelves and contents, doors are removed

TOP CORNER TREATMENTS (PRE-FLOOD)



TOP CORNER TREATMENTS (PLANNED)



MONITORING



Adam A7X 2-Way Active
Near Fields + Sub10 MkII
Active Subwoofer
Full-Range Speaker System



Avantone
Active
Mixcubes



Drawmer mc3.1
Monitor Controller



ACOUSTIC MEASUREMENTS (UNTREATED)

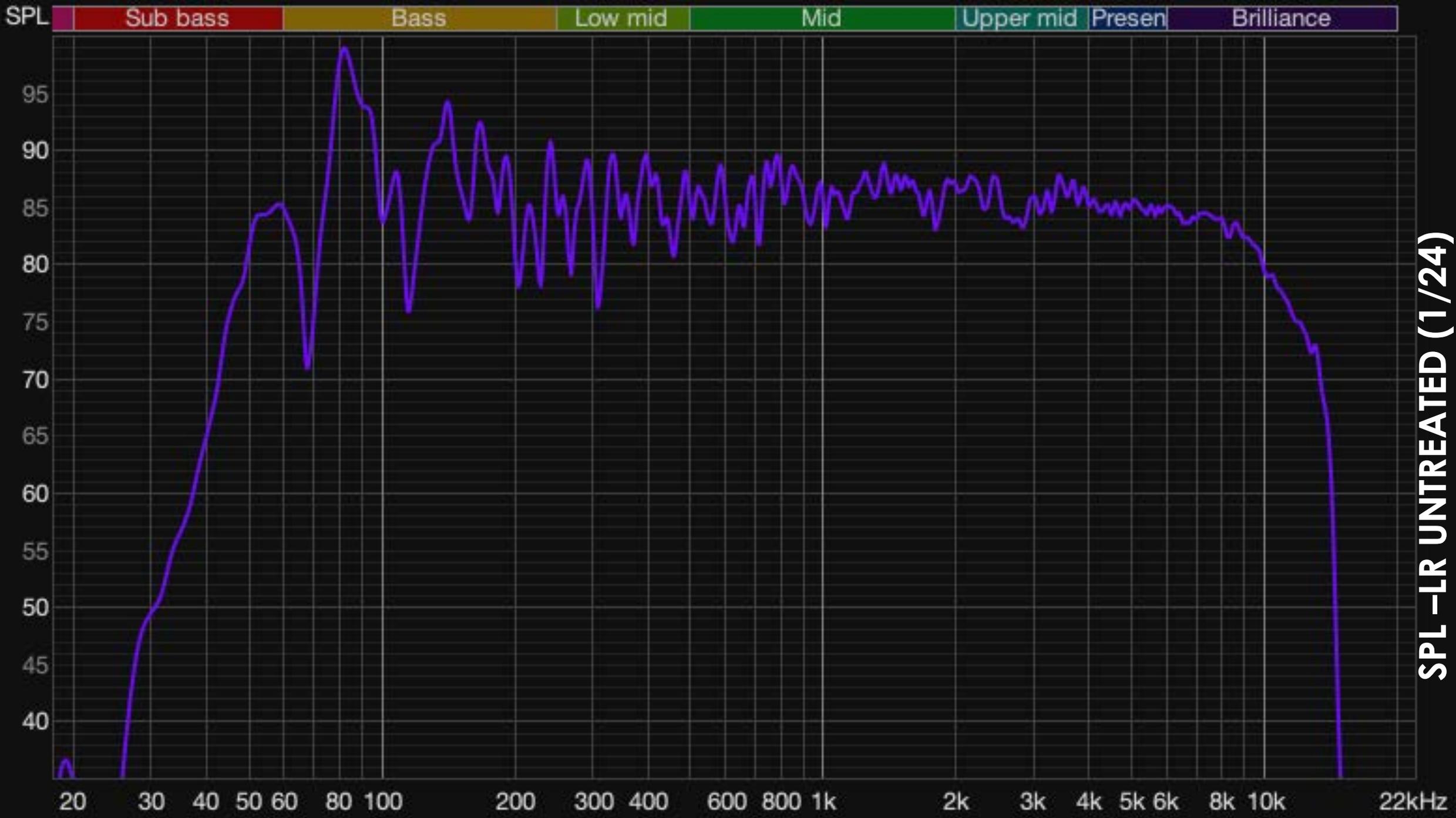


Note – Measurements taken with carpet. Carpet was replaced with vinyl plank flooring but no “empty” room measurements were repeated.

Note – “Empty” measurements made with Behringer ECM8000.

Subsequent measurements made with PreSonus PRM1







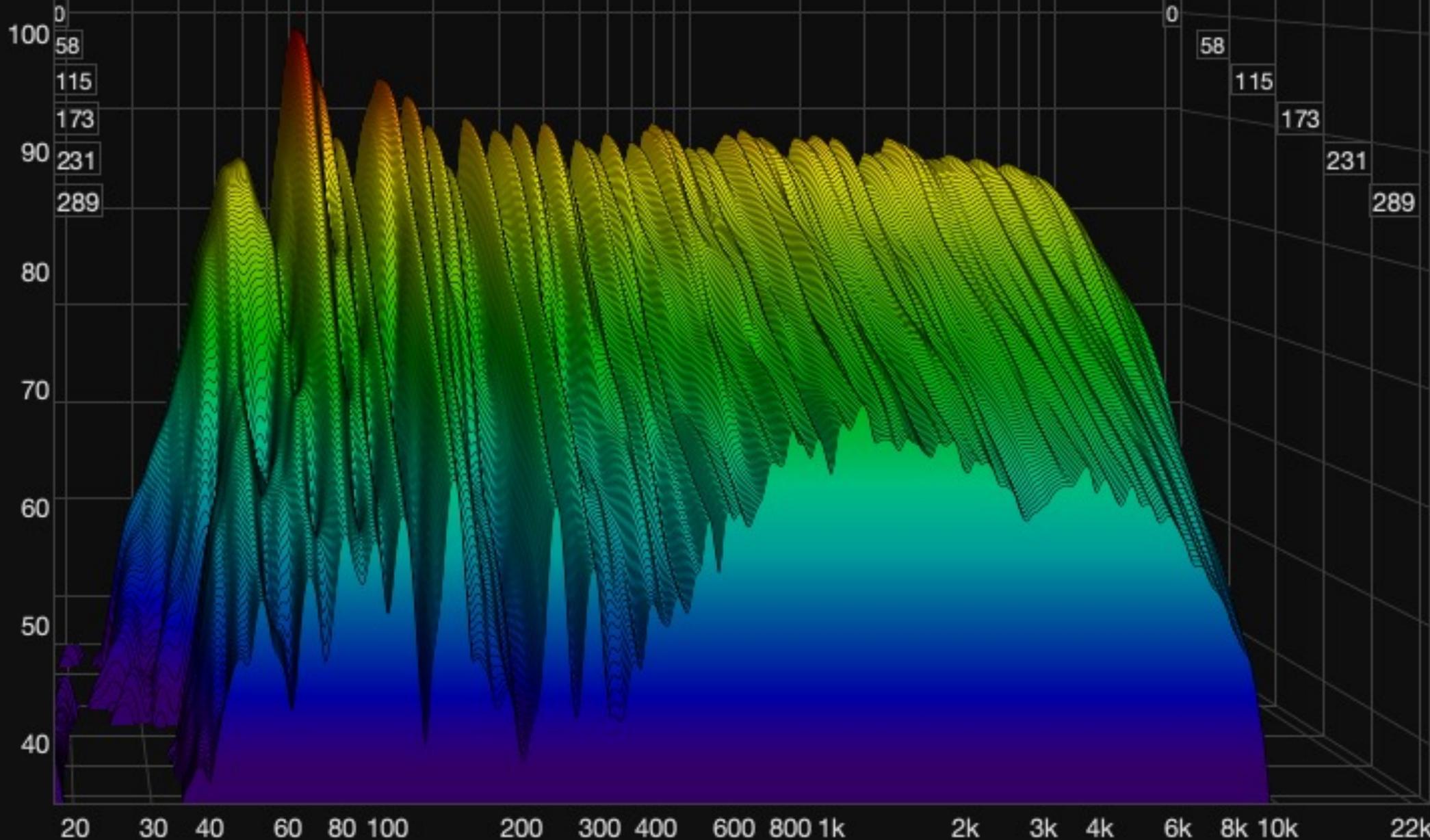
SPL -LR TREATED, UNSWITCHED (1/24)





SPL

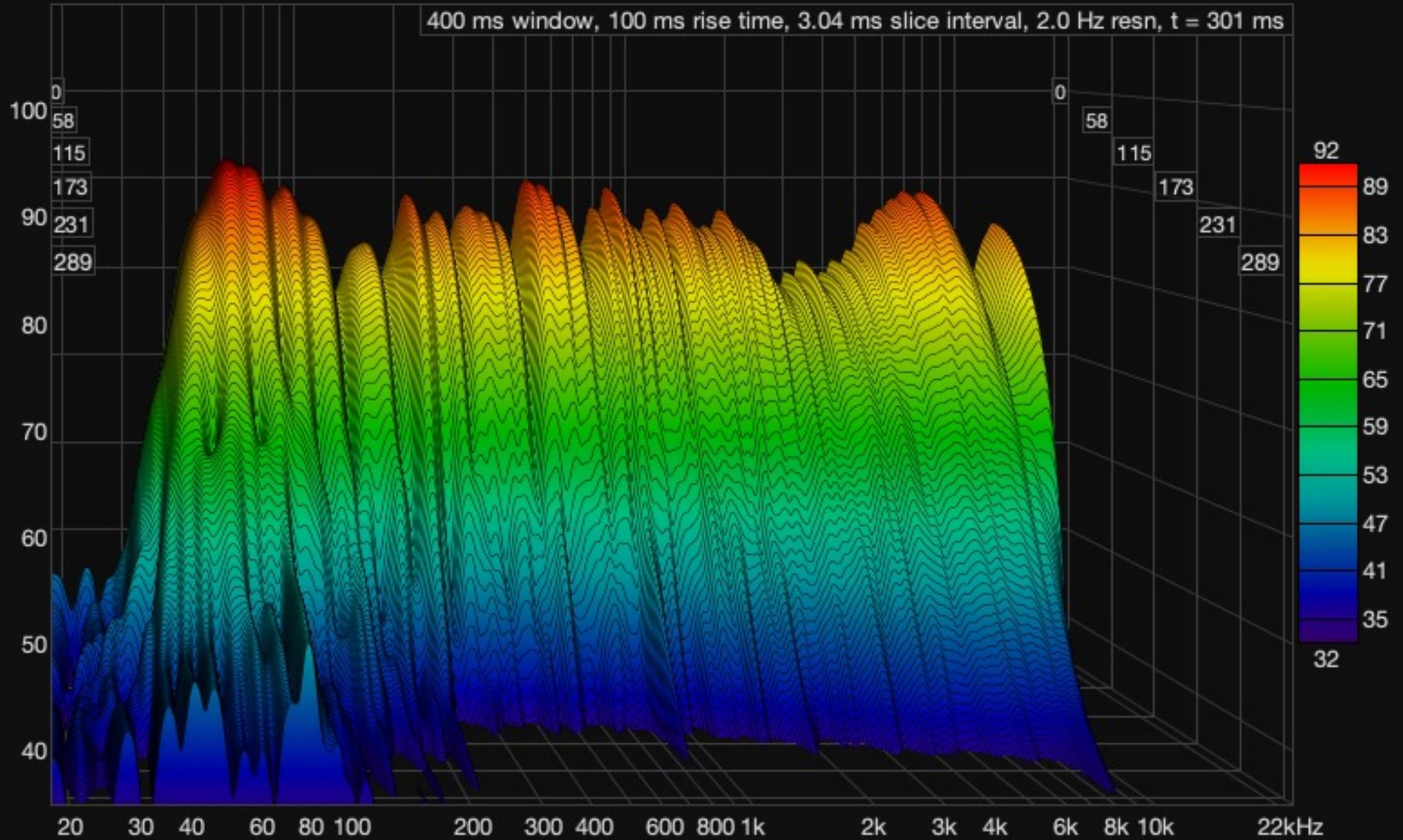
400 ms window, 100 ms rise time, 3.04 ms slice interval, 2.0 Hz resn, t = 301 ms



WATERFALL -LR UNTREATED

SPL

400 ms window, 100 ms rise time, 3.04 ms slice interval, 2.0 Hz resn, t = 301 ms



WATERFALL -LR TREATED, UNSWITCHED

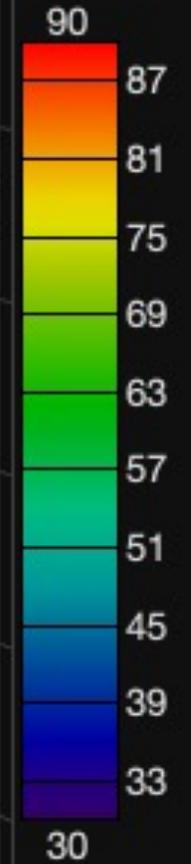
SPL

400 ms window, 100 ms rise time, 3.04 ms slice interval, 2.0 Hz resn, t = 301 ms

Switch tweaks = L-4, T+2

0
58
115
173
231
289

0
58
115
173
231
289

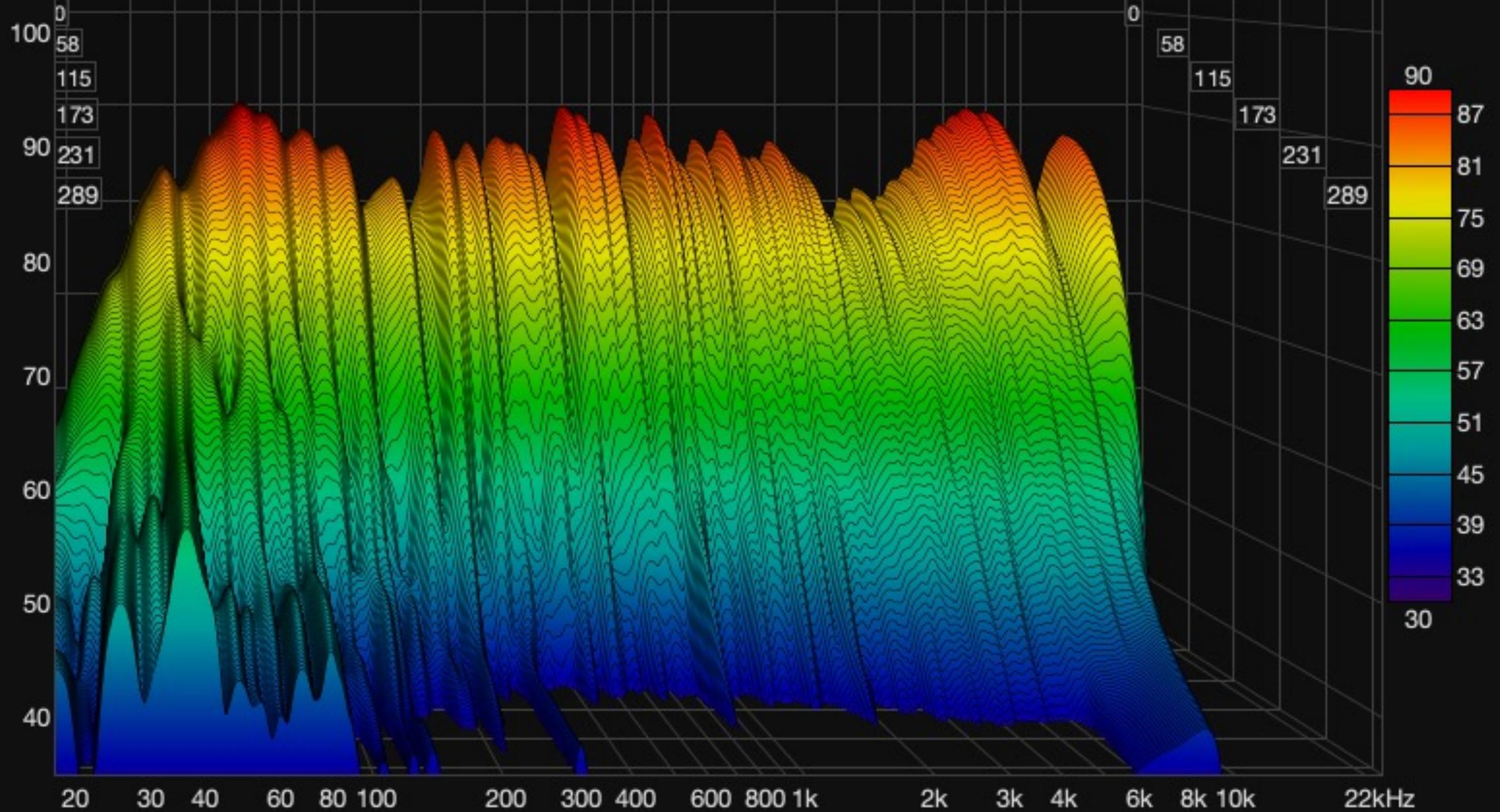


20 30 40 60 80 100 200 300 400 600 800 1k 2k 3k 4k 6k 8k 10k 22kHz

WATERFALL -LR TREATED, SWITCHED

SPL

300 ms window, 100 ms rise time, 3.04 ms slice interval, 2.5 Hz resn, t = 301 ms

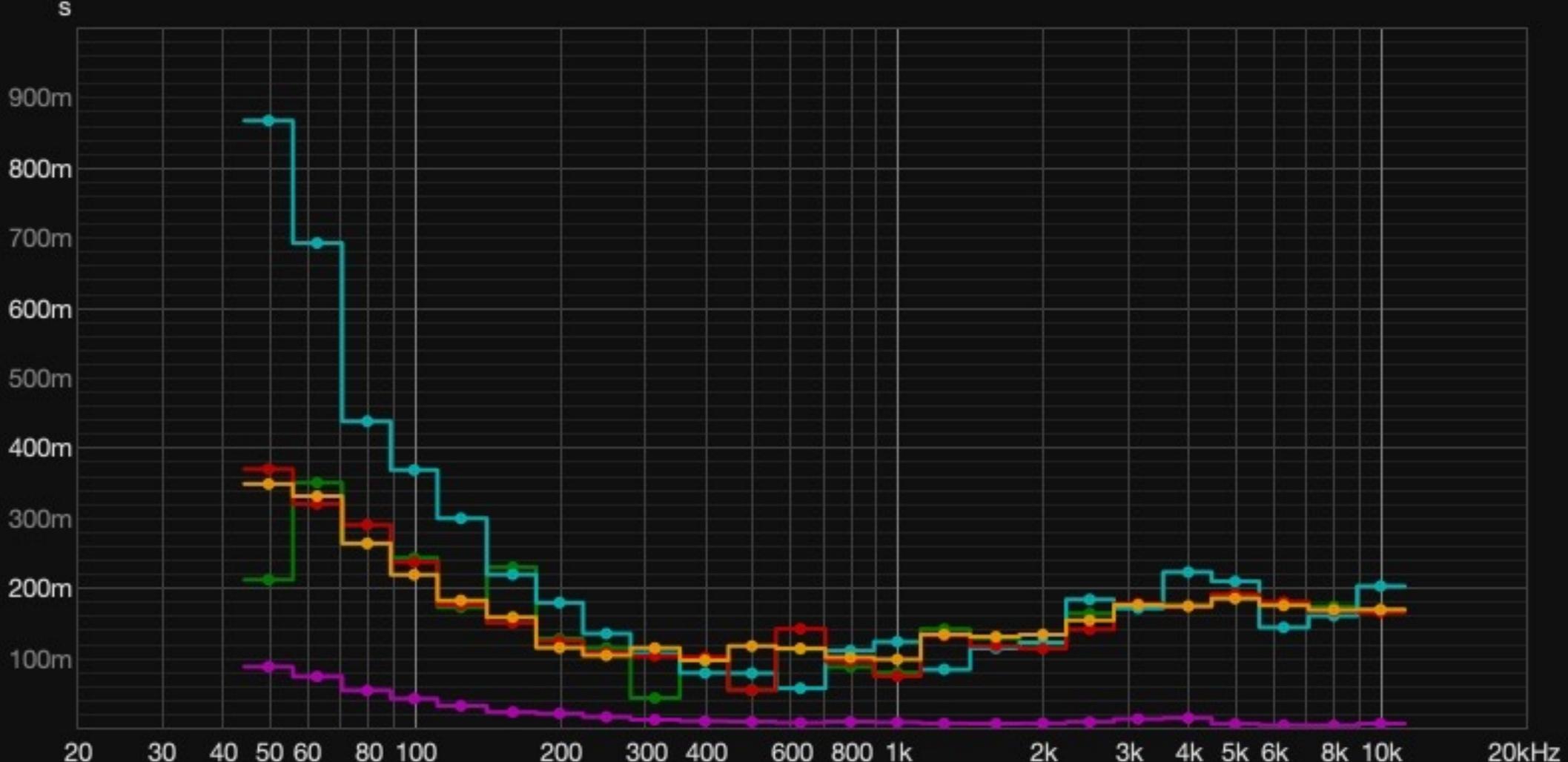


WATERALL -LRS TREATED, SWITCHED



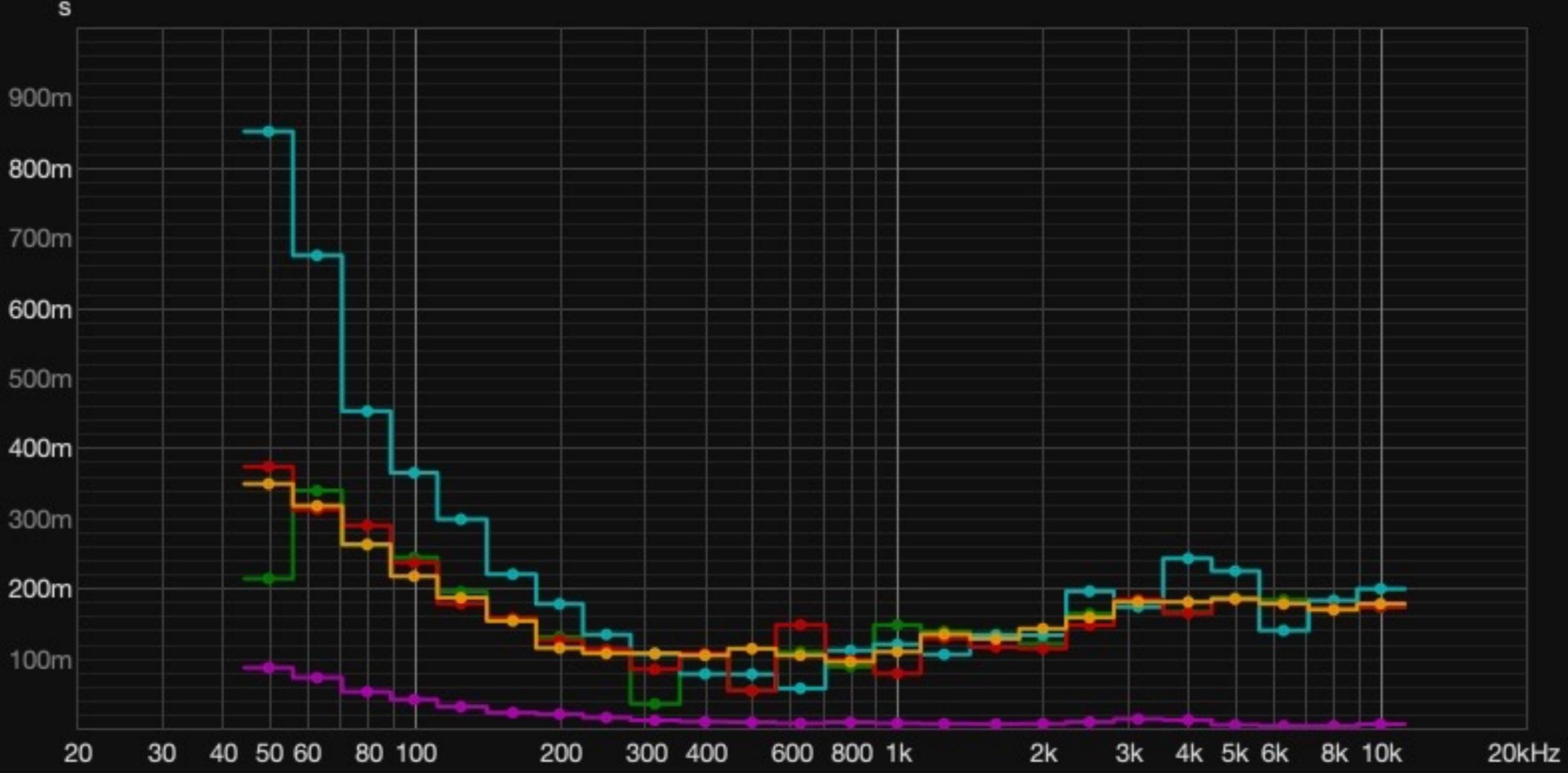
- Topt
- EDT
- T20
- T30
- TS

RT60 --LR UNTREATED



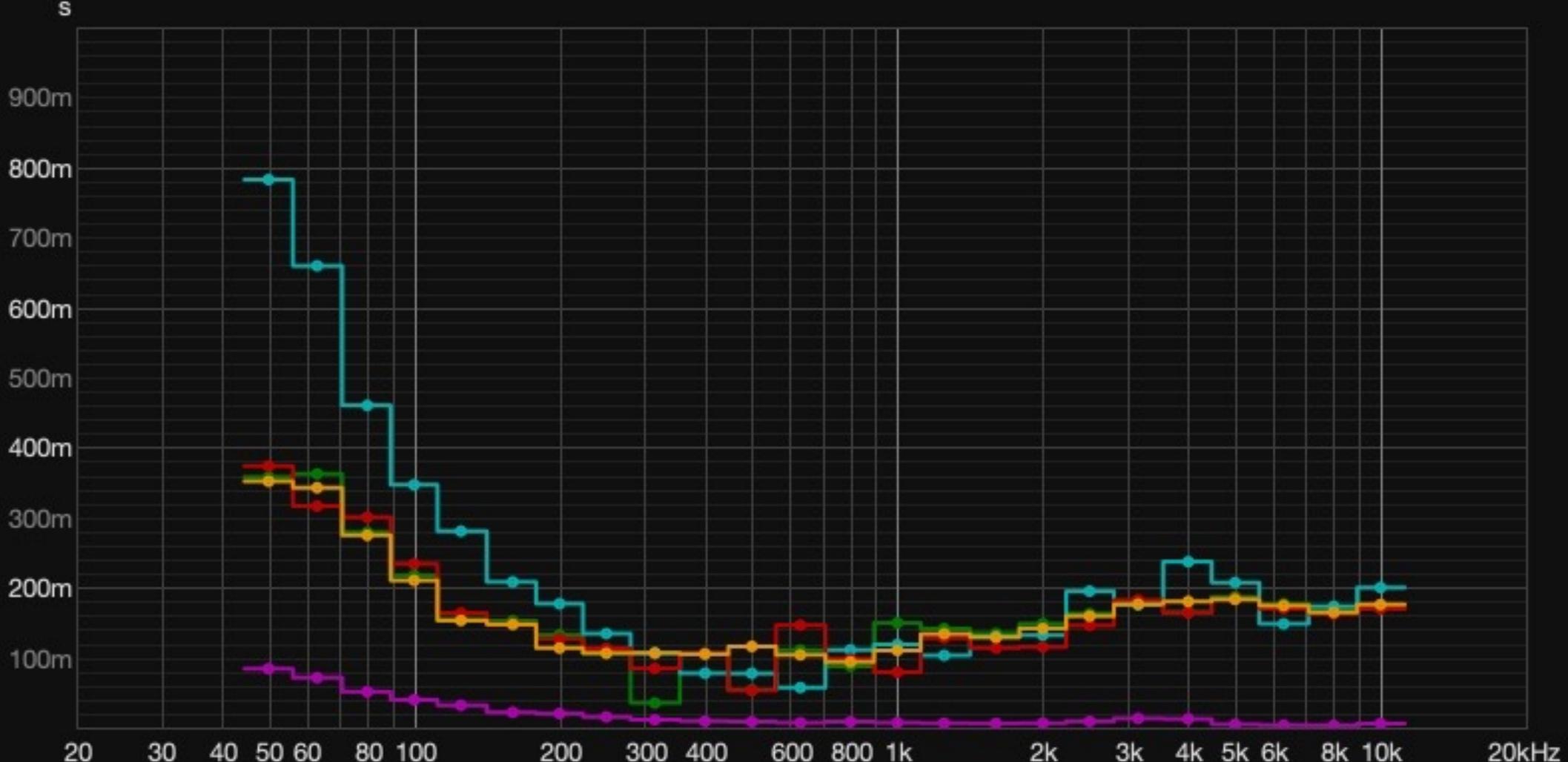
- Topt
- EDT
- T20
- T30
- TS

RT60 -LR TREATED, UNSWITCHED



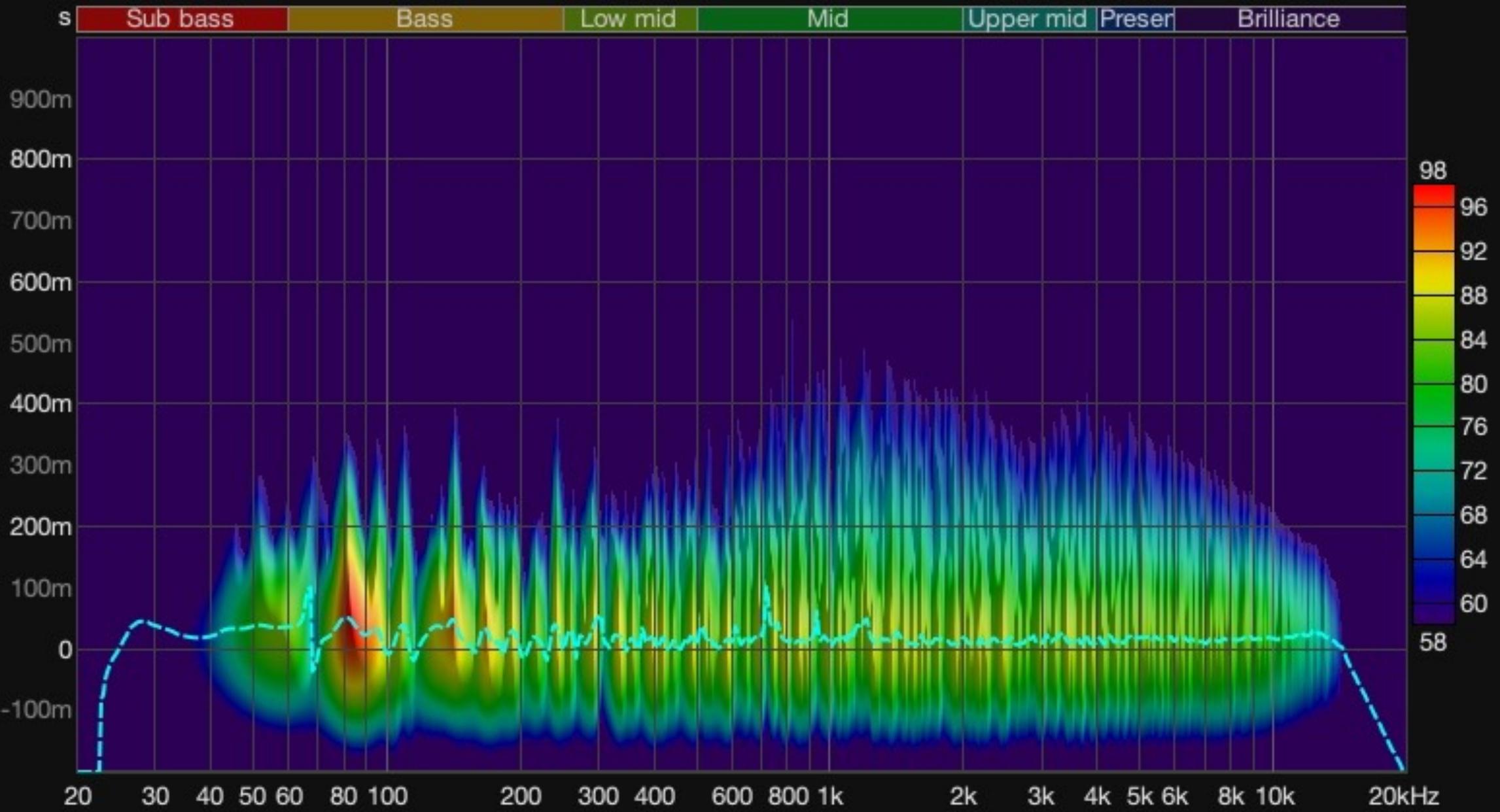
- ✓ Topt
- ✓ EDT
- ✓ T20
- ✓ T30
- ✓ TS

RT60 -LR TREATED, SWITCHED



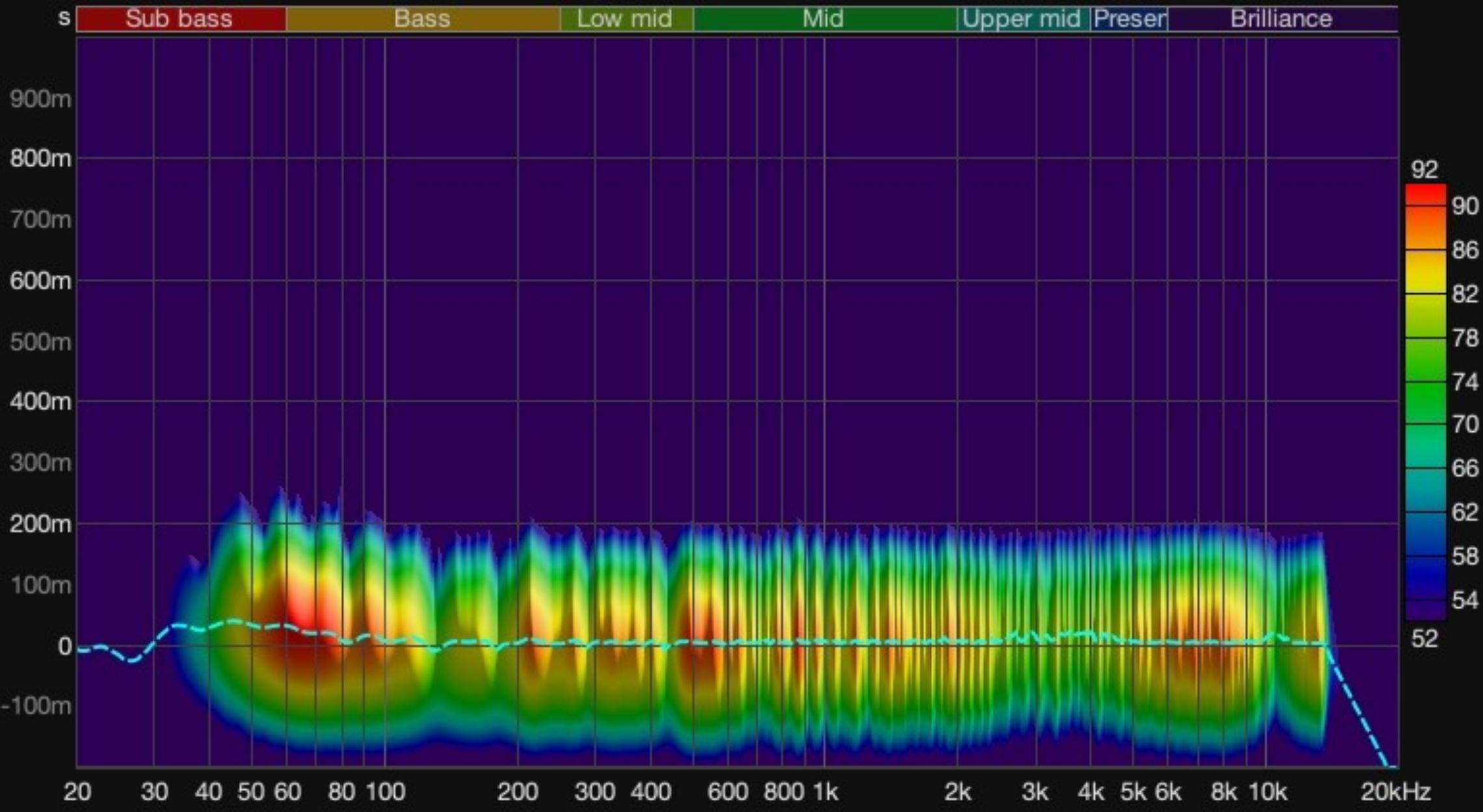
- Topt
- EDT
- T20
- T30
- TS

RT60 -LRS TREATED, SWITCHED



Empty-LR ————— 37.9 dB
 Peak energy time ----- 27.44 ms

SPECTROGRAM -LR UNTREATED



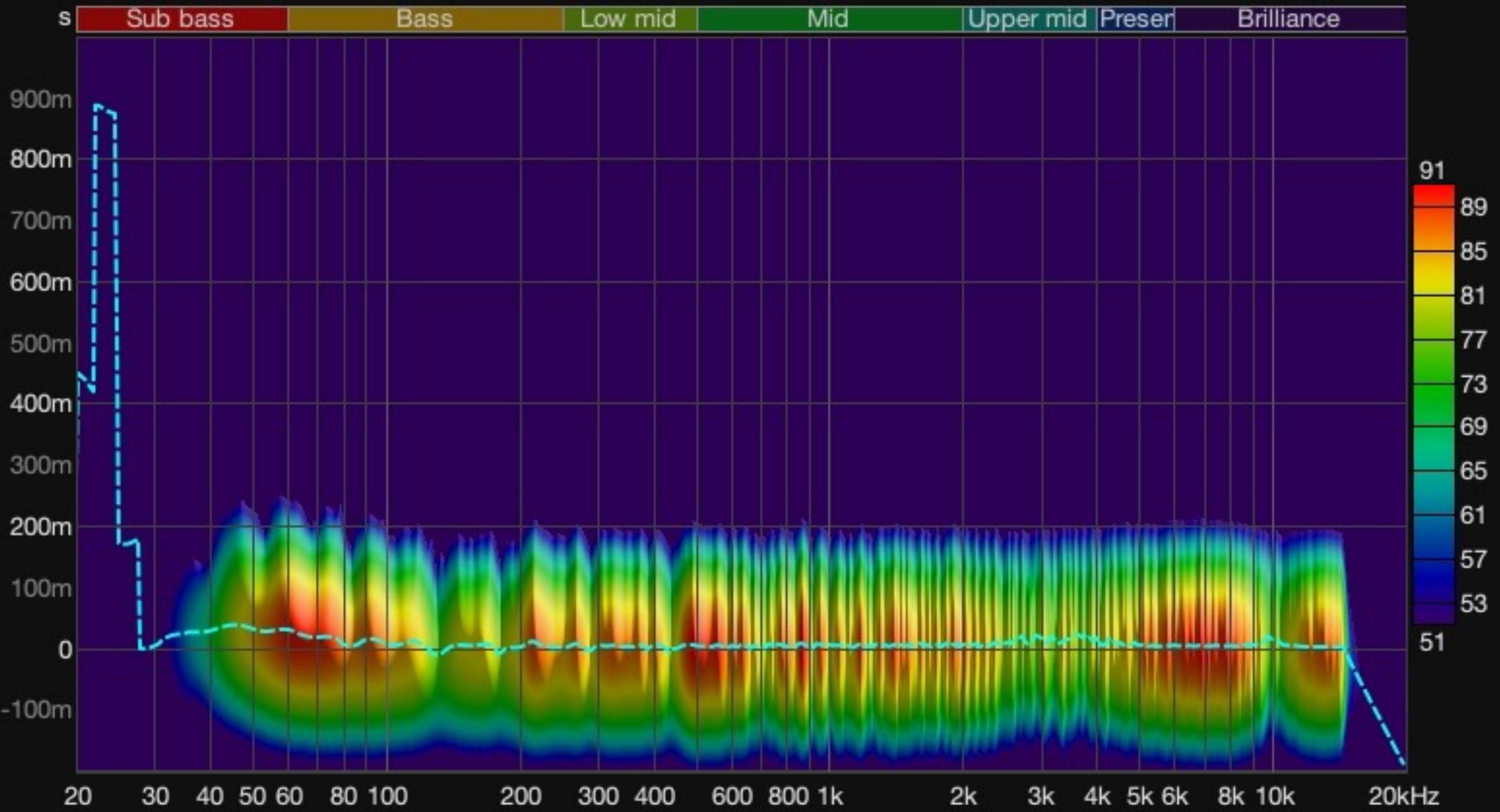
220204.1LR

39.3 dB

Peak energy time

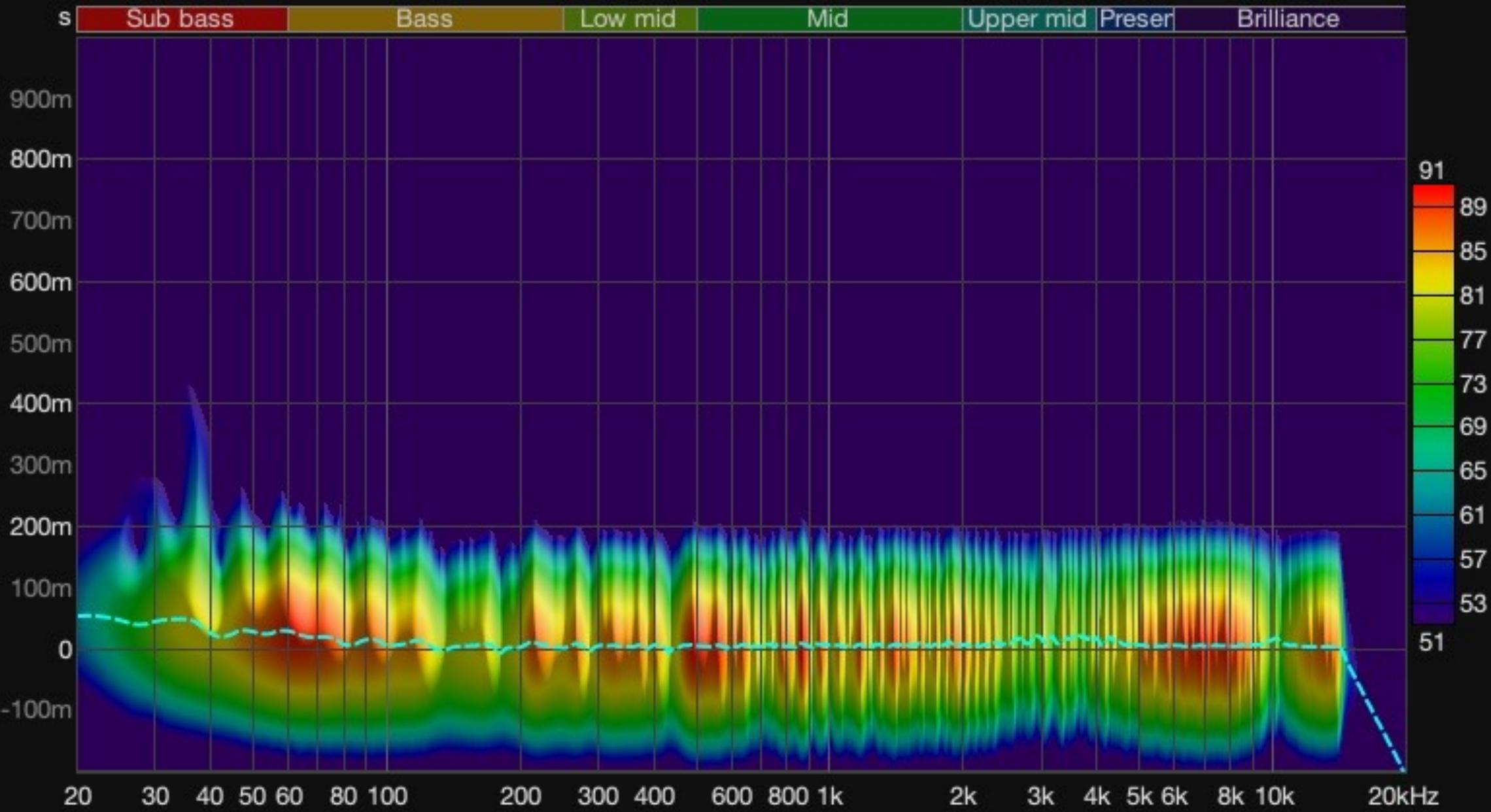
34.23 ms

SPECTROGRAM -LR TREATED, UNSWITCHED



220204.13LR 31.0 dB
 Peak energy time 33.92 ms

SPECTROGRAM -LR TREATED, SWITCHED



220204.12LRS ————— 37.5 dB
 Peak energy time ----- 18.21 ms

SPECTROGRAM -LRS TREATED, SWITCHED