

Hornresp - Input Parameters

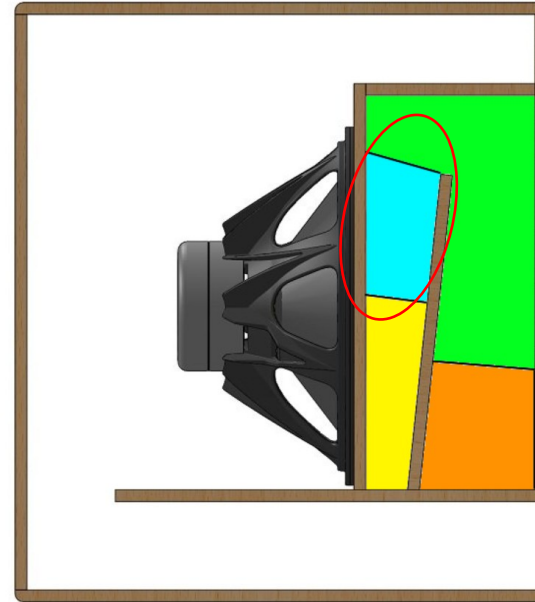
File Tools Window Help

Ang	2.0 x Pi	Eg	2.00	Rg	0.00	Fta	6.60
S1	351.74	S2	836.40	Par	28.22	F12	0.00
S2	836.40	S3	694.88	Par	25.77	F23	0.00
S3	694.88	S4	1024.00	Par	56.01	F34	0.00
S4	1024.00	S5	1155.23	Par	9.41	F45	0.00

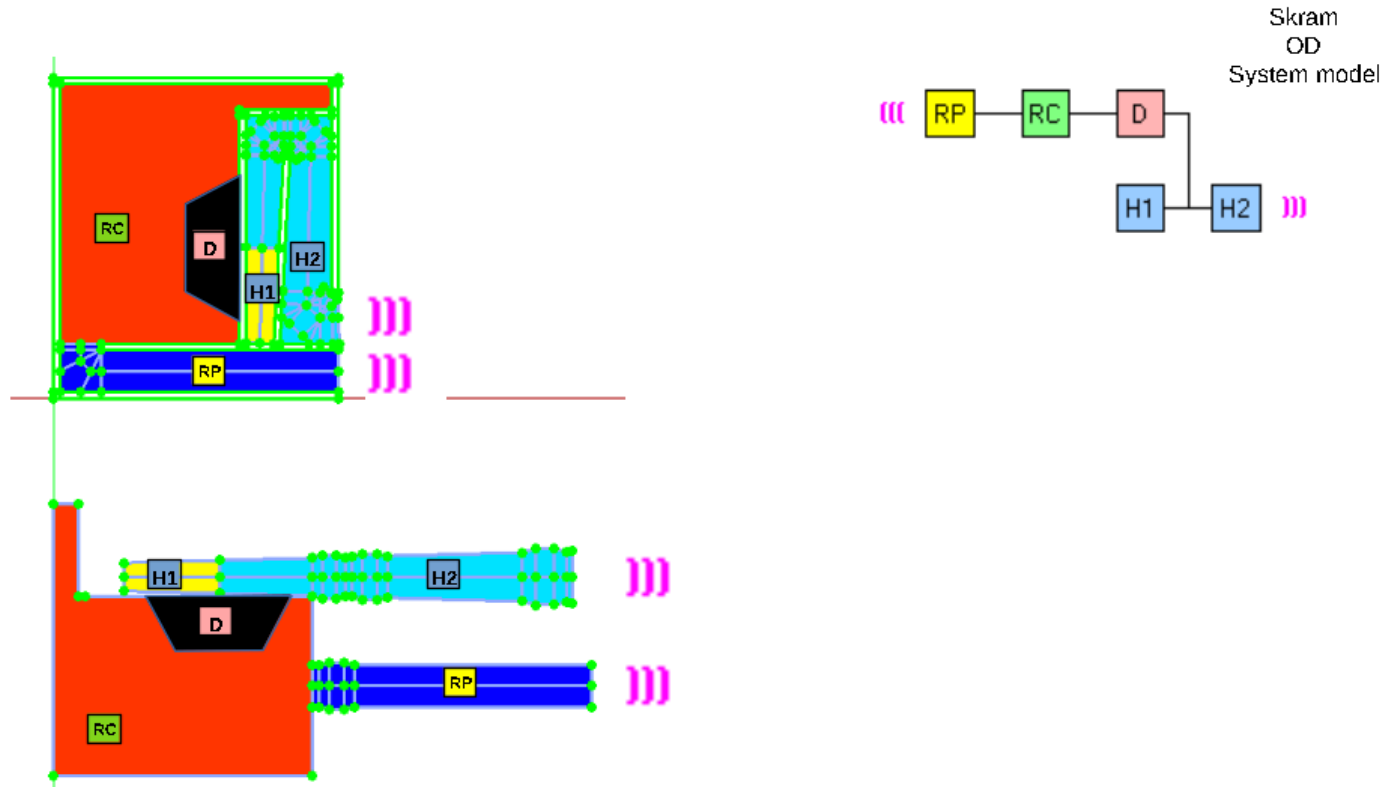
Sd	1680.00	Cms	4.97E-05	Mmd	458.17	Re	3.40
Bl	32.50	Rms	14.30	Le	1.50	OD	1
Vrc	201.73	Ap	725.76	Vtc	0.00		
Lrc	44.00	Lpt	85.71	Atc	0.00		

Comment SKRAM 21SW152-4 lossy 4 vent

Previous Next Edit Add Delete Record 1826 of 2003 Calculate



Reversing engineering the Hornresp inputdata and the model we see incoherence such as area reduction from S2 to S3 witch is not true looking to the model once it part of the same expansion. There are others.



Current FreeCAD model has only two segment (H1 and H2) in the front horn witch give a very good precision for thr Skram layout.

Shared input
w/o semi-inductance

Hornresp - Input Parameters

File Tools Window Help

Ang $2.0 \times \pi$ Eg 2.00 Rg 0.00 Fta 6.60

S1	351.74	S2	836.40	Par	20.22	F12	0.00
S2	836.40	S3	694.88	Par	25.77	F23	0.00
S3	694.88	S4	1024.00	Par	56.01	F34	0.00
S4	1024.00	S5	1155.23	Par	9.41	F45	0.00

Sd 1680.00 Cms 5.35E-05 Mmd 422.82 Re 3.40

Bl 32.57 Rms 13.28 Le 1.50 OD 1

Vic 201.73 Ap 725.76 Vtc 0.00

Lrc 44.00 Lpt 85.71 Atc 0.00

Comment SKRAM 215W152-4 lossy 4 vent

Previous Next Edit Add Delete Record 1826 of 2003 Calculate

Current FreeCAD model

Hornresp - Input Parameters skram

File Tools Window Help

Ang $2.0 \times \pi$ Eg 2.00 Rg 0.00 Fta 6.60

S1	351.74	S2	836.40	Par	20.22	F12	0.00
S2	836.40	S3	694.88	Par	25.77	F23	0.00
S3	694.88	S4	1024.00	Par	56.01	F34	0.00
S4	1024.00	S5	1155.23	Par	9.41	F45	0.00

Sd 1680.00 Cms 5.35E-05 Mmd 422.82 Re 3.40

Bl 32.57 Rms 13.28 Le 1.50 OD 1

Vic 201.73 Ap 725.76 Vtc 0.00 CAUTION: $S2 < Sd$

Lrc 44.00 Lpt 85.71 Atc 0.00

Comment Skram

Previous Next Edit Add Delete Record 2 of 4 Calculate

FreeCAD model
+ Air Volume between cone
and front Horn($Vtc+Atc$)

Hornresp - Input Parameters skram

File Tools Window Help

Ang $2.0 \times \pi$ Eg 2.00 Rg 0.00 Fta 2.88

S1	488.00	S2	575.15	Par	27.28	F12	0.00
S2	575.15	S3	1195.52	Par	100.75	F23	0.00
S3	0.00	S4	0.00	L34	0.00	F34	0.00
S4	0.00	S5	0.00	L45	0.00	F45	0.00

Sd 1680.00 Cms 5.35E-05 Mmd 422.82 Re 3.40

Bl 32.57 Rms 13.28 Le 1.50 OD 1

Vic 243.92 Ap 732.00 Vtc 0.00 CAUTION: $S2 < Sd$

Lrc 51.37 Lpt 79.54 Atc 0.00

Comment Skram

Previous Next Edit Add Delete Record 3 of 4 Calculate

Hornresp - Input Parameters skram

File Tools Window Help

Ang $2.0 \times \pi$ Eg 2.00 Rg 0.00 Fta 2.88

S1	488.00	S2	575.15	Par	27.28	F12	0.00
S2	575.15	S3	1195.52	Par	100.75	F23	0.00
S3	0.00	S4	0.00	L34	0.00	F34	0.00
S4	0.00	S5	0.00	L45	0.00	F45	0.00

Sd 1680.00 Cms 5.35E-05 Mmd 422.82 Re 3.40

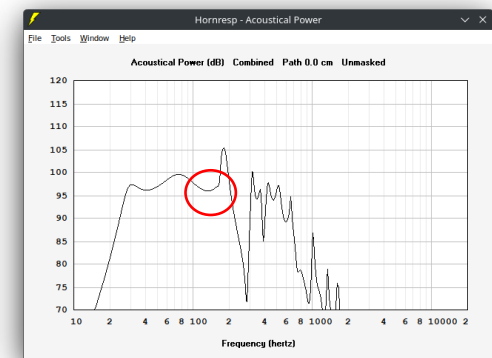
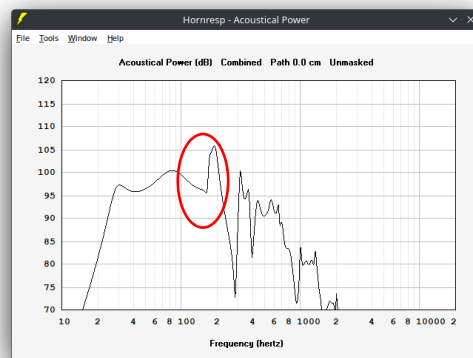
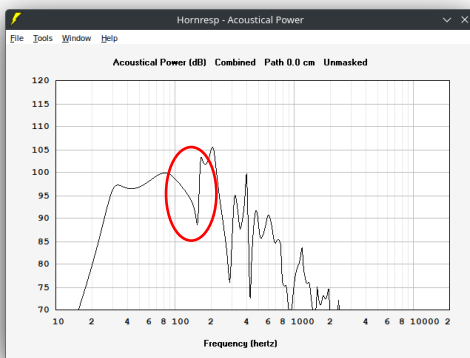
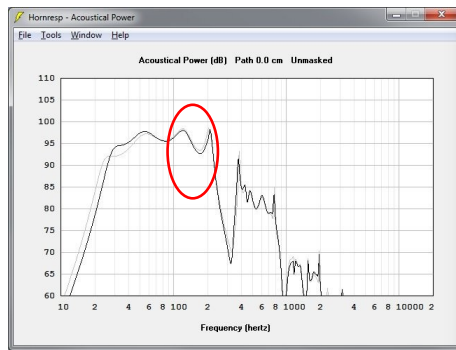
Bl 32.57 Rms 13.28 Le 1.50 OD 1

Vic 243.92 Ap 732.00 Vtc 7400.00

Lrc 51.37 Lpt 79.54 Atc 2026.00

Comment Skram

Previous Next Edit Add Delete Record 4 of 4 Calculate



Since Hornresp Update 5730-250309, a new flag was introduced regarding port end correction for all models other than Tapped Horn, so Offset Driver (OD) model was affected. Besides David didn't explicitly mention in the post # 15.583, a new line was added in the inport/export txt file in order to carry the new flag status.

Inport/Export txt file.

```
146 Band 6 type = -1
147
148 |STATUS FLAGS:
149
150 Auto Path Flag = 0
151 Lossy Inductance Model Flag = 0
152 Semi-Inductance Model Flag = 0
153 Damping Model Flag = 0
154 Closed Mouth Flag = 0
155 Continuous Flag = 1
156 End Correction Flag = 0
157
```

Macro correction:
Add highlighted line.

```
171 file.write("\n")
172 file.write("|STATUS FLAGS:"+"\n")
173 file.write("\n")
174 file.write("Auto Path Flag = 1"+"\\n")
175 file.write("Lossy Inductance Model Flag = 0"+"\\n")
176 file.write("Semi-Inductance Model Flag = 0"+"\\n")
177 file.write("Damping Model Flag = 0"+"\\n")
178 file.write("Closed Mouth Flag = 0"+"\\n")
179 file.write("Continuous Flag = 1"+"\\n")
180 file.write("End Correction Flag = 0"+"\\n")
181 file.write("\n")
```

FreeCAD model
+ Air Volume between cone
and front Horn(Vtc+Atc) +
Removed end correction

Homresp - Input Parameters

File Tools Window Help

Ang Eg Rg Fta

S1	352.72	S2	694.40	F12	0.00
S2	836.40	S3	694.88	F23	0.00
S3	694.40	S4	1024.00	F34	0.00
S4	1024.00	S5	1195.52	F45	0.00

Sd Lpt Mmd Re

Bl Rms Le

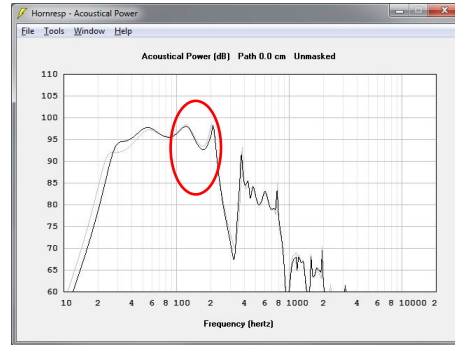
Vtc Ap Vtc

Lrc Lpt Atc

Comment

Previous Next Edit Add Delete Record 1826 of 2003 Calculate

Unclear input,
missing only lossy
inductance?



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Ang Eg Rg Fta

S1	488.00	S2	575.15	Par	27.28	F12	0.00
S2	575.15	S3	1195.52	Par	100.75	F23	0.00
S3	0.00	S4	0.00	L34	0.00	F34	0.00
S4	0.00	S5	0.00	L45	0.00	F45	0.00

Sd Cms Mmd Re

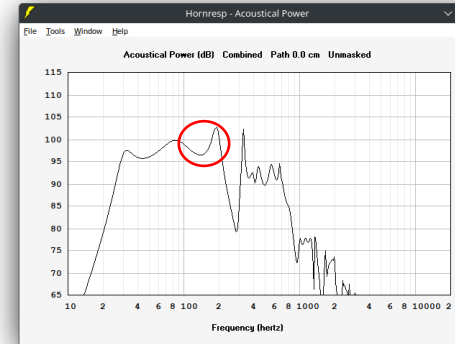
Bl Rms Le

Vtc Vtc CAUTION:

Lrc Atc

Comment

Previous Next Edit Add Delete Record 5 of 5 Calculate



FreeCAD model offer a RAW design that can be modified and escaled up/down from the user to fit their needs, but each change introduced by the user, needs to be considered in the simulation input data. The cases below show some regular change that will affect input data, mainly related to calculated volumes.

