

# Building an effective, high performances, single 18", front loaded subwoofer

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**Eighteen Sound**

A division of A.E.B srl

Via dell'Industria 20 - 45025 Cavriago (Reggio Emilia)- Italy

## 18" subwoofer kit

- High performance 18 inch subwoofer system.
- Over damped design for better transient response.
- Compact box dimension.
- Flared end vent design for air turbulence reducing.
- Internal bracing for cabinet loss reducing
- Triple driver choice is possible: 18ND9300, 18LW2400 and 18LW1400 are basically the same speaker except for a slightly more damping present in the 18ND9300. The 18ND9300 allows for a lighter weight box design. 18LW2400 and 18LW1400 represent the proper cost effective solution if same performances are required with less restrictive weight limits.

•**18ND9300** woofer key features:

Neodymium magnet

4" interleaved sandwich voice coil

Double Silicon Spider

Double Demodulating Rings

900W AES power handling

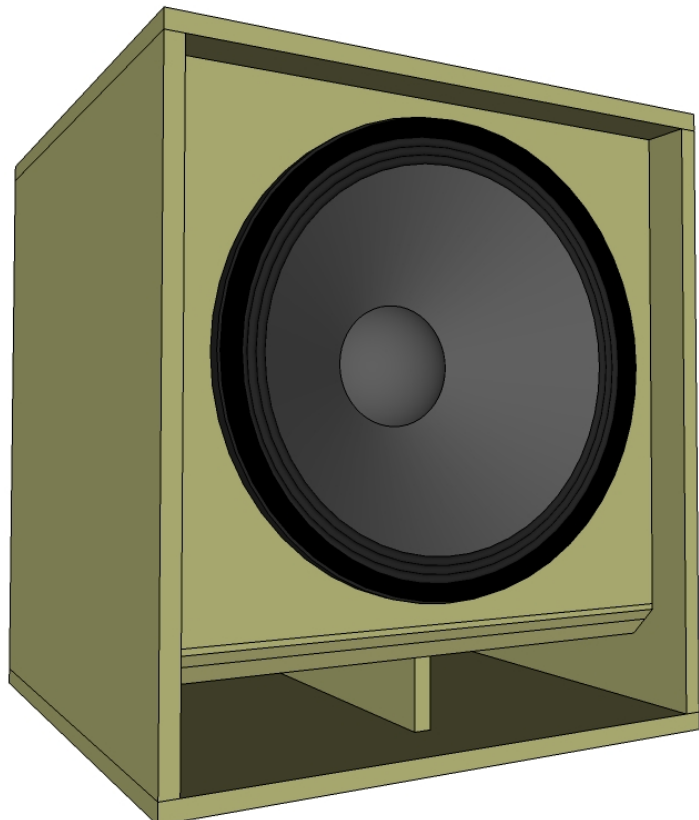
•**18LW2400** woofer key features:

4" interleaved sandwich voice coil

Triple Silicon Spider

Double Demodulating Rings

1200W AES power handling



## 18ND9300



### GENERAL SPECIFICATIONS

|                           |               |                    |
|---------------------------|---------------|--------------------|
| NOMINAL DIAMETER          | 460mm         | (18 in)            |
| RATED IMPEDANCE           | 8 ohms        |                    |
| CONTINUOUS PINK NOISE (1) | 900 W         |                    |
| SENSITIVITY (2)           | 98 dB         |                    |
| FREQUENCY RANGE (3)       | 28 ÷ 2500 Hz  |                    |
| MAX RECOMM. FREQUENCY     | 500 Hz        |                    |
| RECOMM. ENCLOSURE VOLUME  | 100 ÷ 300 lt. | (3,53 ÷ 10,6 cuft) |
| VOICE COIL DIAMETER       | 100 mm        | (4 in)             |
| NET WEIGHT                | 7,6 kg        | (16,78 lb)         |

### THIELE-SMALL PARAMETERS (4)

|                                       |               |                 |
|---------------------------------------|---------------|-----------------|
| Fs                                    | 30 Hz         |                 |
| Re                                    | 5 ohms        |                 |
| Sd                                    | 0,1225 sq.mt. | (189,88 sq.in.) |
| Qms                                   | 7,86          |                 |
| Qes                                   | 0,29          |                 |
| Qts                                   | 0,28          |                 |
| Vas                                   | 322 lt.       | (11,37 cuft)    |
| Mms                                   | 184 gr.       | (0,41 lb)       |
| BL                                    | 24,4 Tm       |                 |
| Linear Mathematical Xmax (5)          | ± 9,5 mm      | (± 0,37 in)     |
| Le (1kHz)                             | 2,02 mH       |                 |
| Ref. Efficiency<br>1W@1m (half space) | 96,7 dB       |                 |

## 18LW1400



### GENERAL SPECIFICATIONS

|                           |               |                     |
|---------------------------|---------------|---------------------|
| NOMINAL DIAMETER          | 460mm         | (18 in)             |
| RATED IMPEDANCE           | 8 ohms        |                     |
| CONTINUOUS PINK NOISE (1) | 1000 W        |                     |
| SENSITIVITY (2)           | 98 dB         |                     |
| FREQUENCY RANGE (3)       | 28 - 2500 Hz  |                     |
| MAX RECOMM. FREQUENCY     | 500 Hz        |                     |
| RECOMM. ENCLOSURE VOLUME  | 130 - 350 lt. | (4,59 - 12,36 cuft) |
| VOICE COIL DIAMETER       | 100 mm        | (3,95 in)           |
| NET WEIGHT                | 13,3 kg       | (29,36 lb)          |

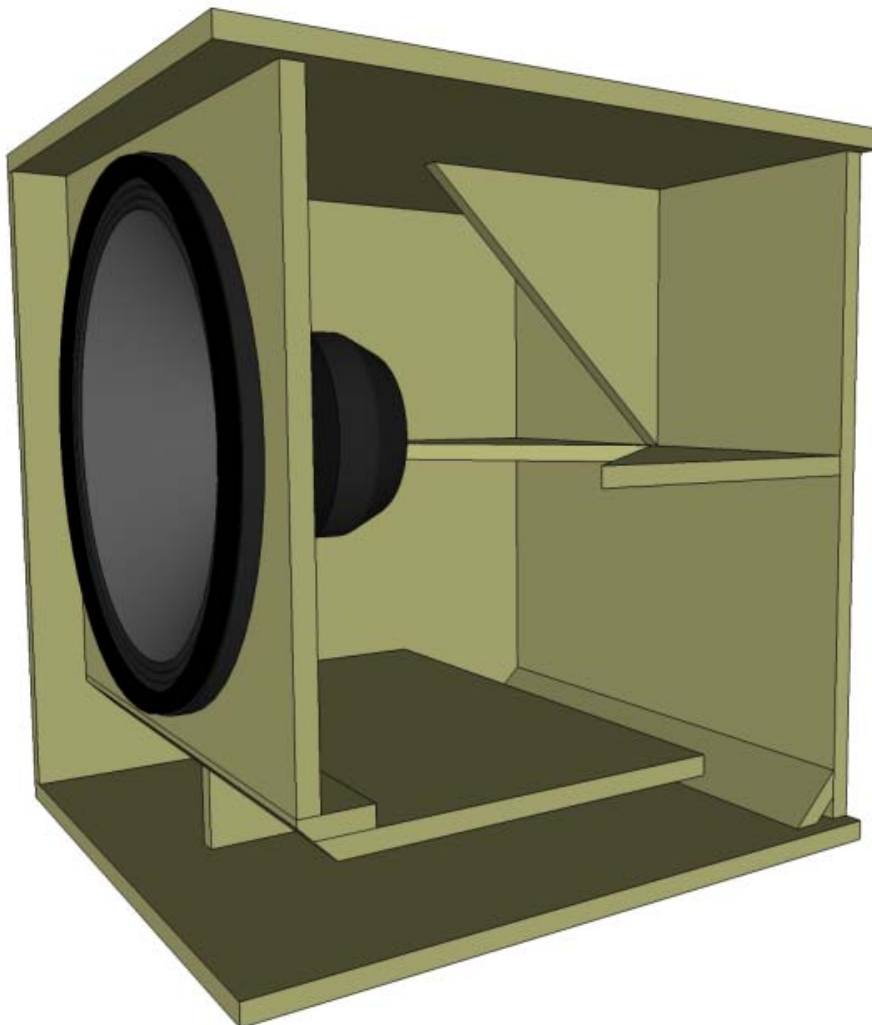
### THIELE-SMALL PARAMETERS (4)

|   |                |                  |
|---|----------------|------------------|
| Fs                                      | 31 Hz          |                  |
| Re                                      | 5 ohms         |                  |
| Sd                                      | 0,1225 sq. mt. | (189,88 sq. in.) |
| Qms                                     | 7,20           |                  |
| Qes                                     | 0,31           |                  |
| Qts                                     | 0,29           |                  |
| Vas                                     | 297 lt.        | (10,49 cuft)     |
| Mms                                     | 190 gr.        | (0,42 lb)        |
| BL                                      | 24,7 Tm        |                  |
| Linear Mathematical Xmax (5)            | ± 9 mm         | (± 0,35 in)      |
| Le (1kHz)                               | 2,3 mH         |                  |
| Ref. Efficiency<br>1W @ 1m (half space) | 96,5 dB        |                  |

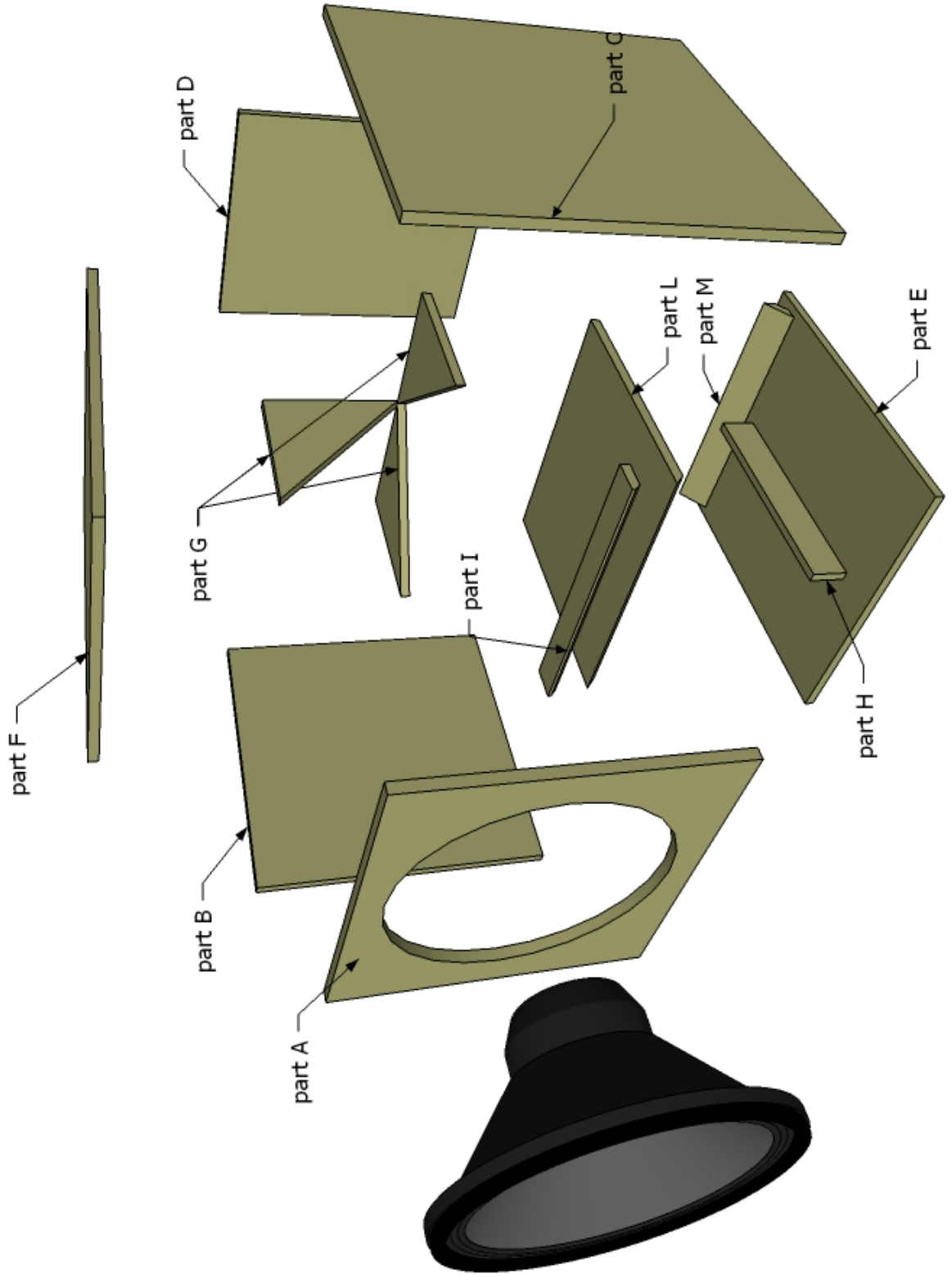
- The enclosure should be made of baltic birch plywood (18mm thickness).
- Bolts should be M5 or M6, 35mm or more length.
- M5 or M6 T-Nuts are recommended.
- Accurate damping of the cabinet interior is highly recommended.
- An high density dampening material, such as Dacron or other synthetic fibers, is required for better performance.
- Handling, rigging and connectors are at user's choice. It's very important that their placement should not influence in any way the proper vent functionality.

## Internal view

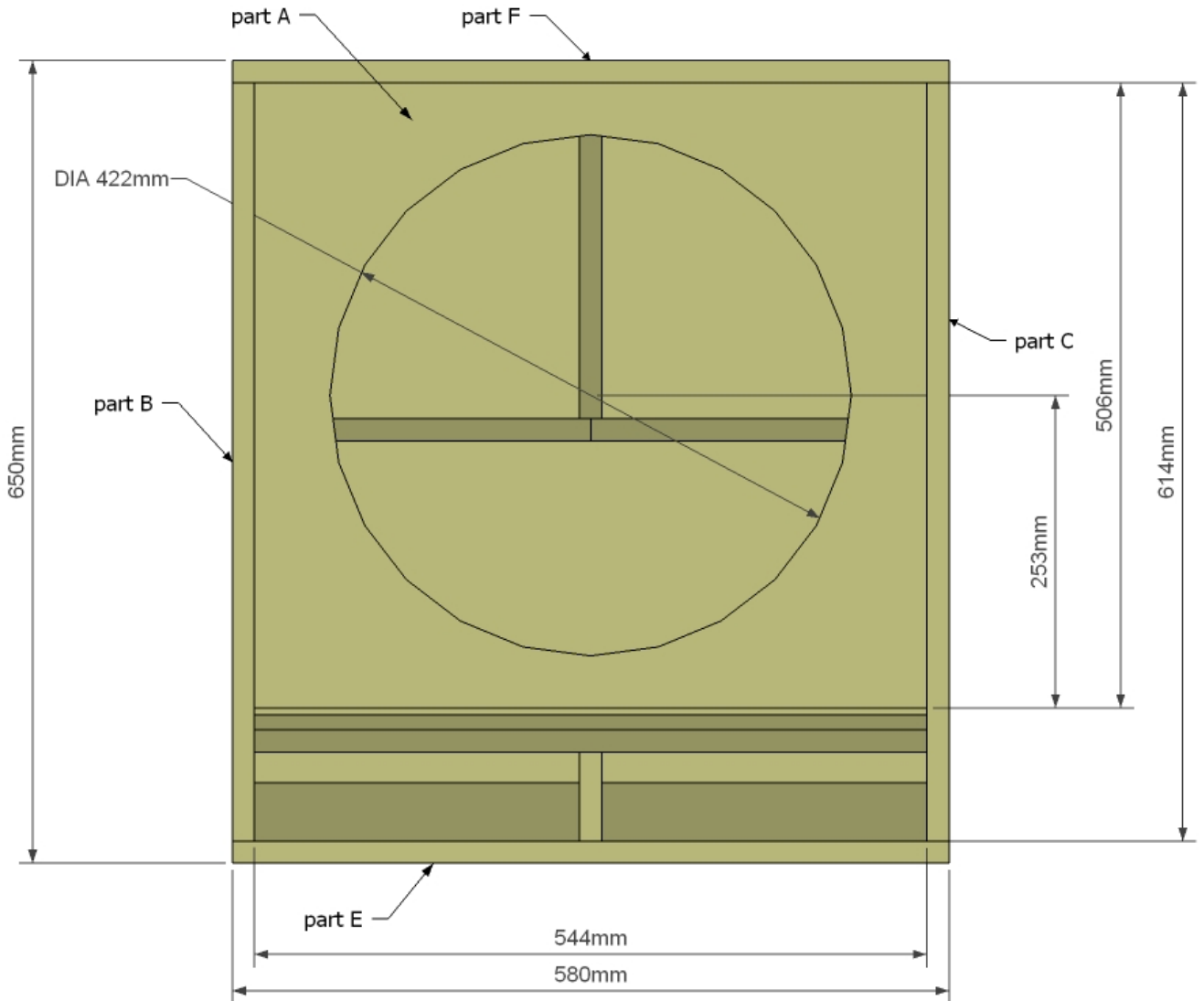
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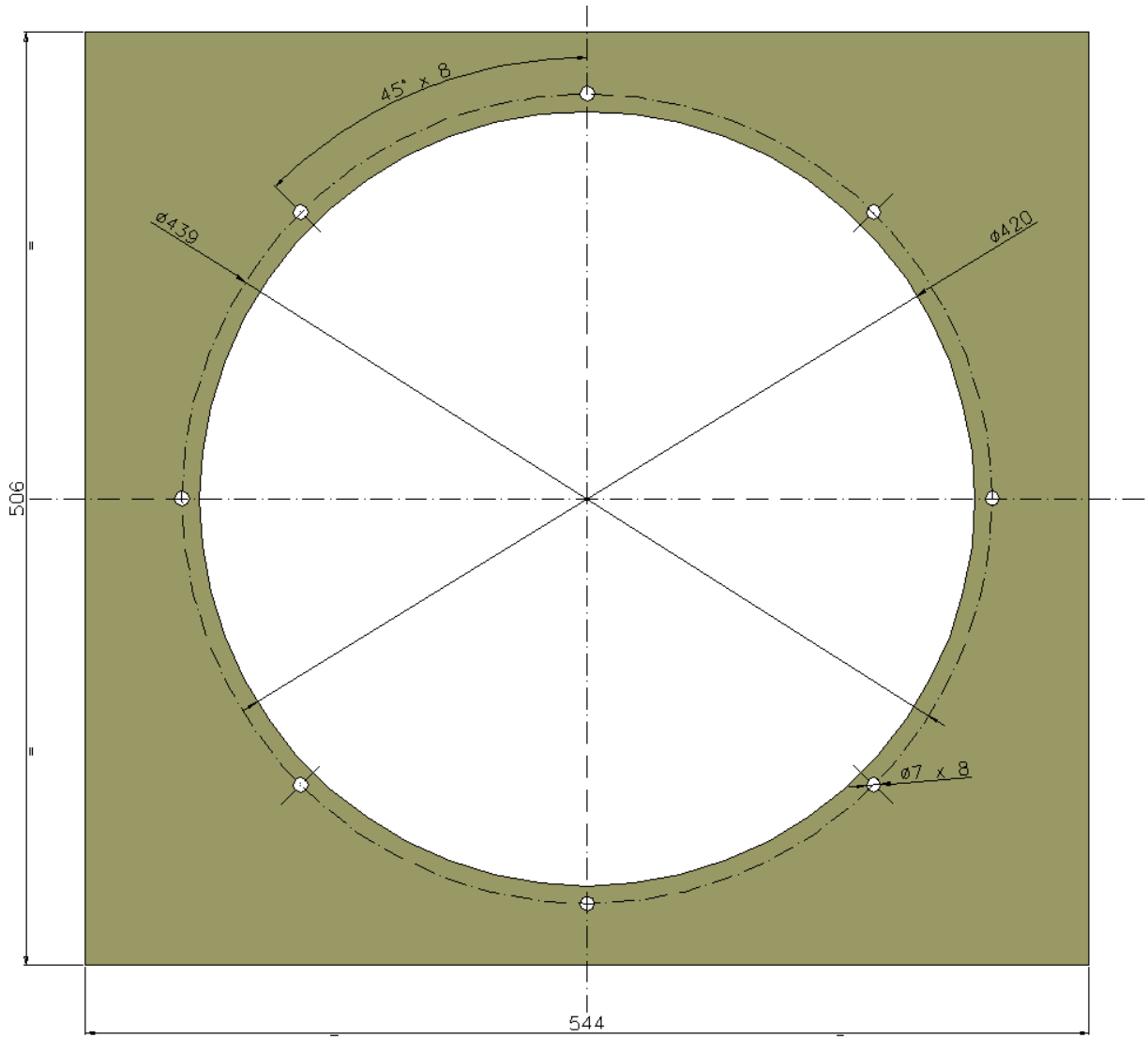
Exploded view



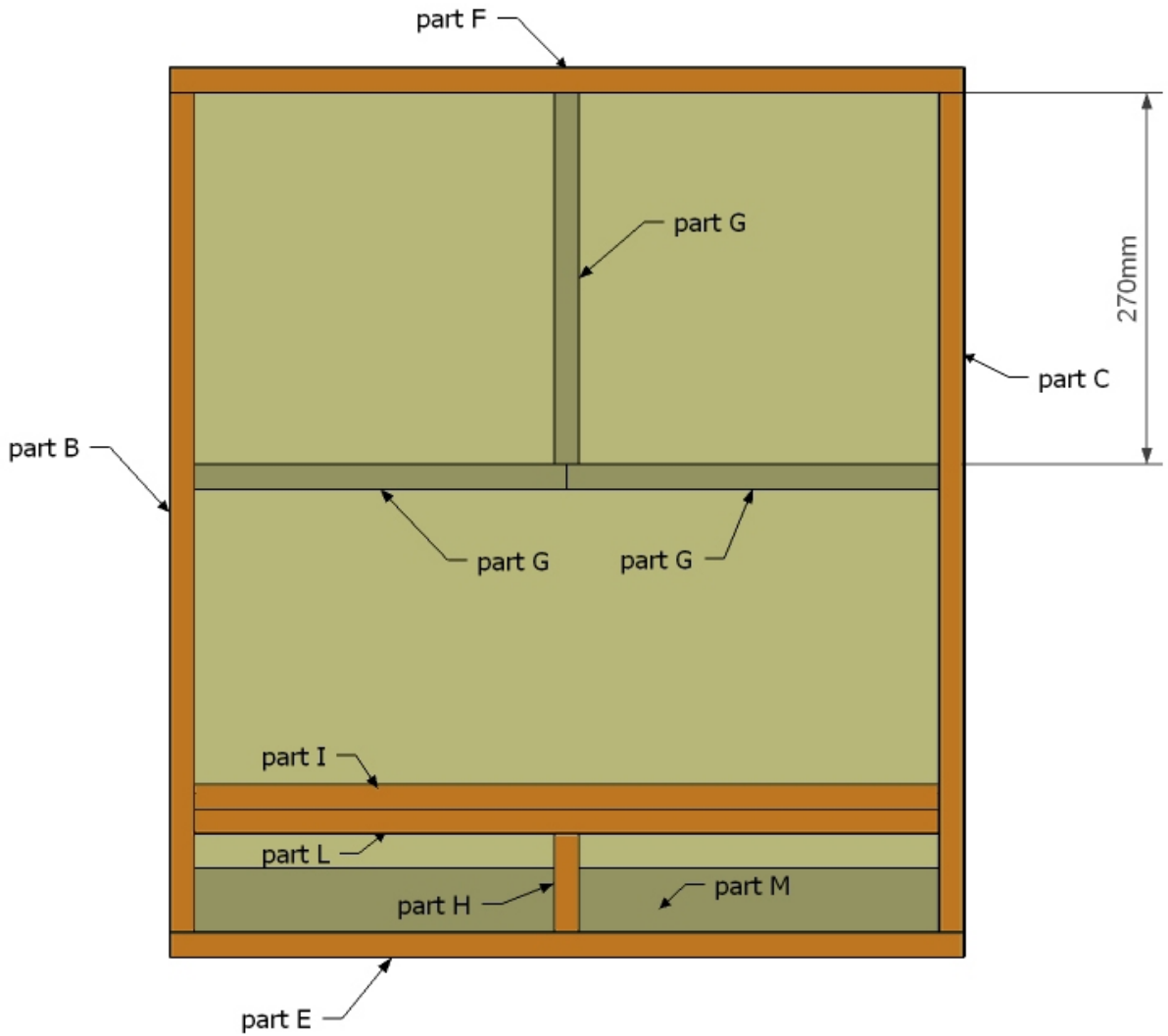
## Front view



## Front panel bolt holes



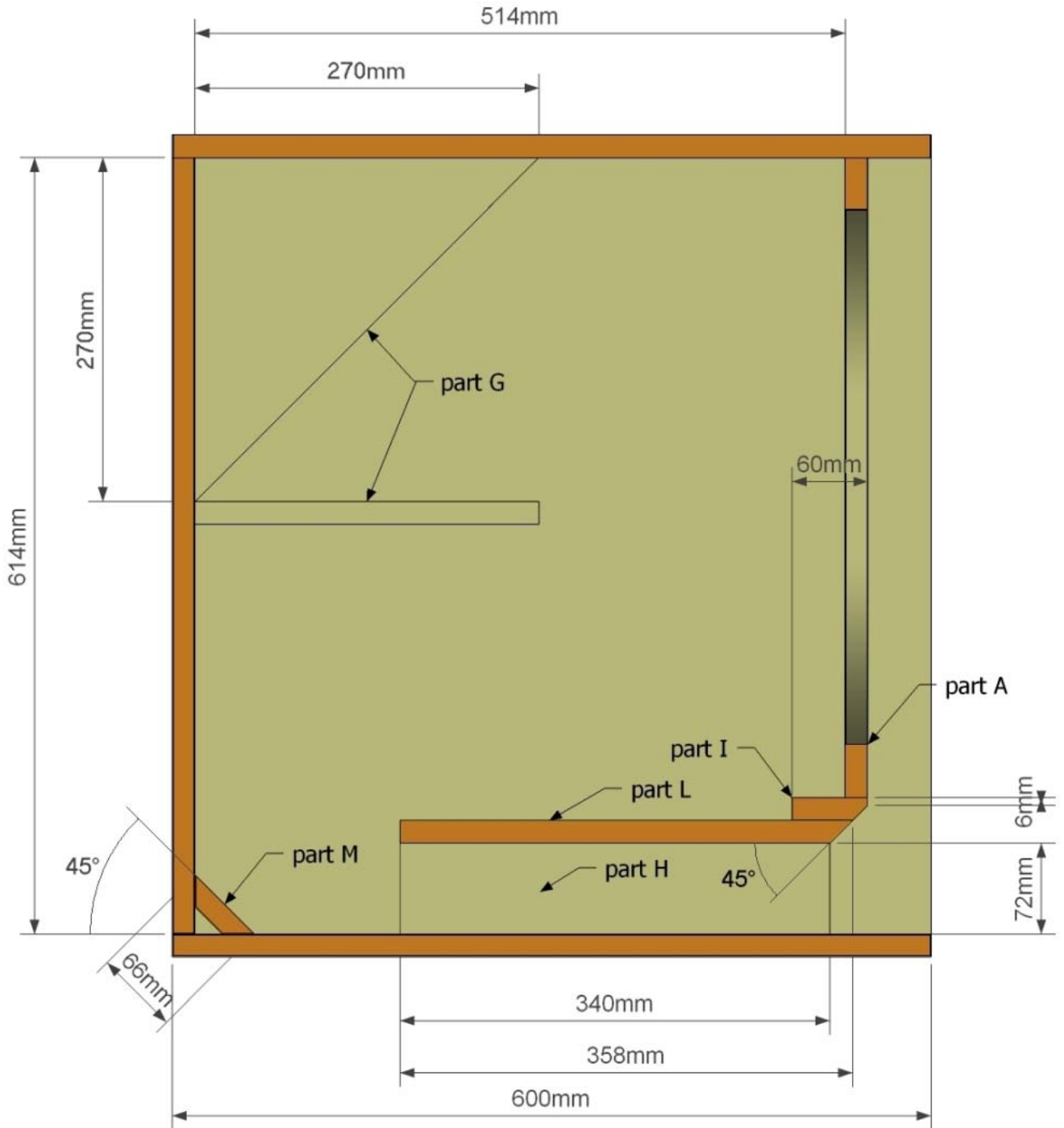
## Front section



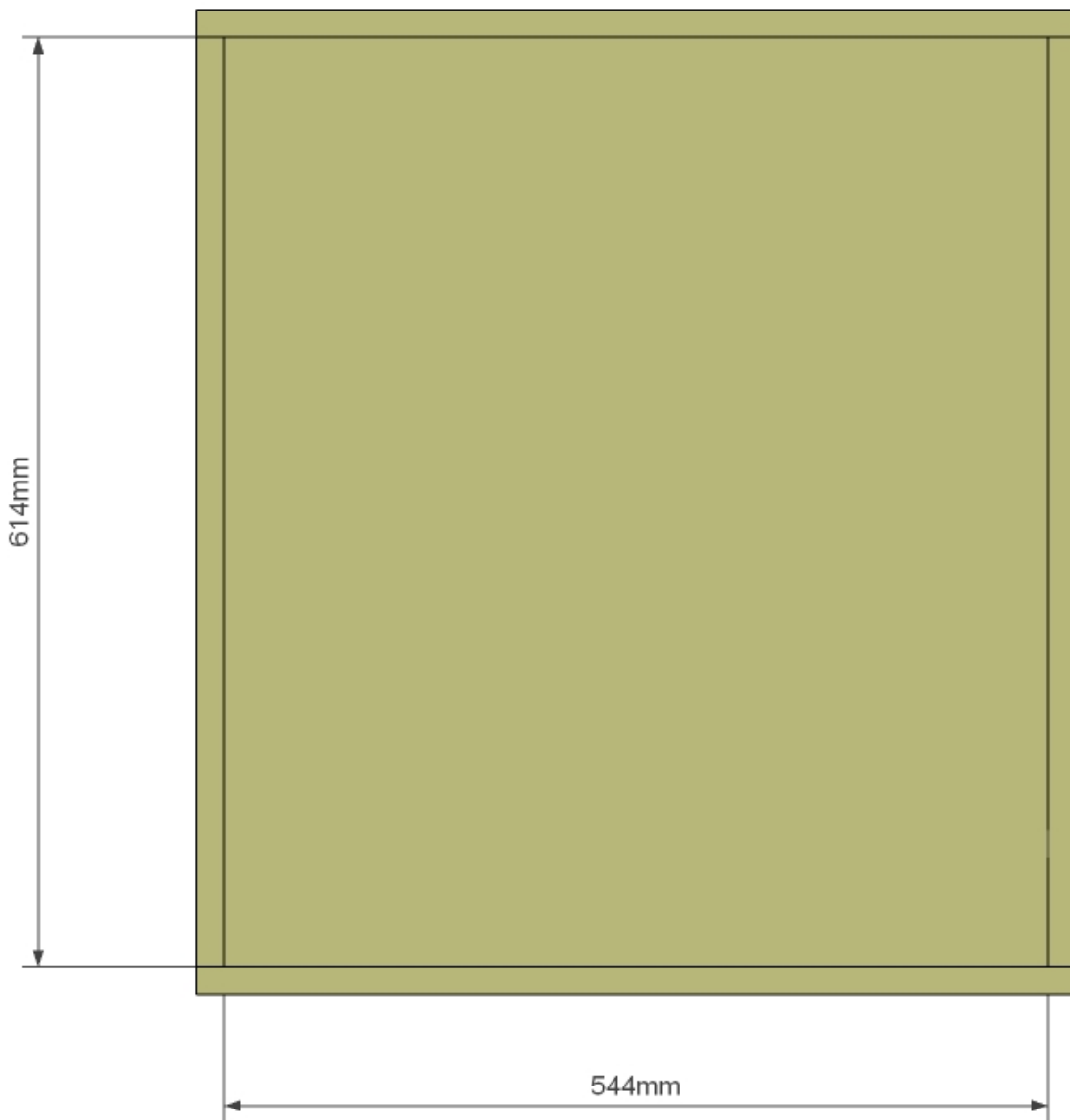
Woofer panel section



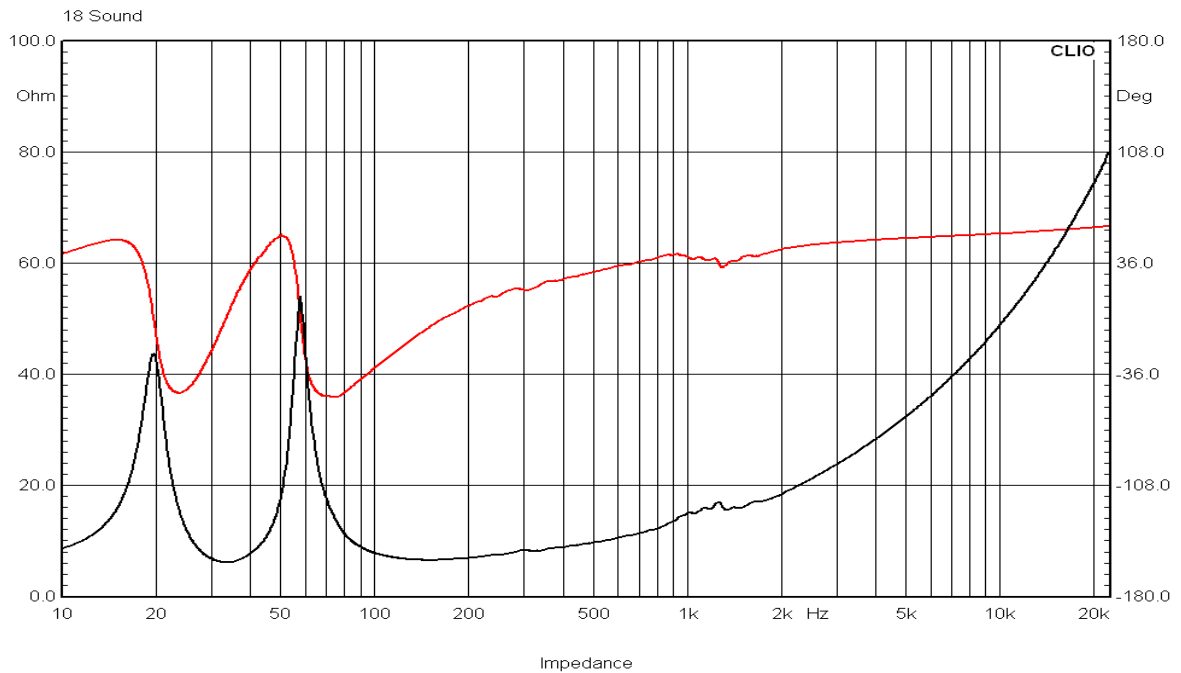
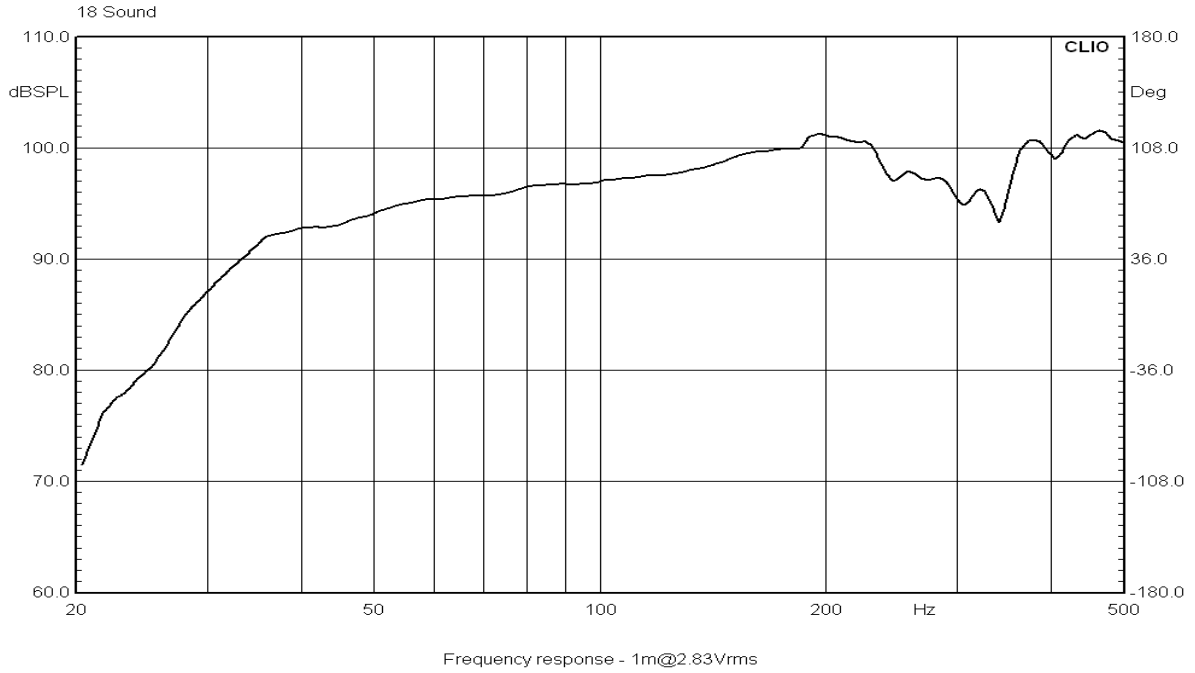
## Side section



## Rear panel



## Measurements: 18ND9300/18LW1400



## Equalization settings suggestions

