



soberton inc.

# SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-7140-2



Release | Revision: C/2017

## CONTENTS

This document contains the technical specifications for the dynamic speaker unit.

### Page 1

Speaker Electroacoustic Characteristics

General Specifications

### Page 2

Reliability Tests

### Page 3

Measuring Method (Speaker Mode)

Block Diagram for Measurement Method

### Page 4

Frequency Response Curve

### Page 5

Dimensions

### Page 6

Packing

## Dynamic Speaker Electroacoustic Characteristics

### Sound Pressure Level

85±3dB (0.1W/0.1M) @AVE 0.5KHz,1.0KHz,1.5KHz, 2.0KHz  
Measuring conditions and procedures shown in Fig 1 & Fig 2

### Frequency Response Curve

As shown in Figure 3

### Resonance Frequency

300±20% Hz

### Input Power (Nominal and Maximum)

Rated Noise Power: 3.0W

Short Term Max Power: 5.0W

### Frequency Range

F0 ~ 20KHz

### Buzz, Rattle, Etc

Not audible from F0 to 20KHz with 4.89V sine wave input

### Polarity

When positive voltage is applied to the terminal marked (+), diaphragm should be moved to the front.

### Magnet

Rare earth permanent (NdFeB) magnet φ12.5x3mm

### AC Impedance

8Ω ±15%

### Distortion

Less Than 5% @1KHz Input Rated Power

### Dimension

71.0 x40.0x23.0mm

## General Specifications

### Operating Temperature Range

-20°C~+65°C

### Storage Temperature Range

-30°C ~ +80°C

### Standard Test Conditions

Temperature 5°C~35°C

Relative Humidity 45%~85%(RH)

Air Pressure 860 mbar ~ 1060 mbar

### IP Level

No rating



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**Page 1**  
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General Specifications

**Page 2**  
Reliability Tests

**Page 3**  
Measuring Method (Speaker Mode)

Block Diagram for Measurement Method

**Page 4**  
Frequency Response Curve

**Page 5**  
Dimensions

**Page 6**  
Packing

## Reliability Tests

The sound pressure as specified will neither deviate more than  $\pm 3\text{dB}$  from the initial value, nor have any significant damage after any of the following testing

### High Temperature Test

High Temperature  $+70\pm 3^\circ\text{C}$

Duration 96 hours (leave 6 hours in normal temperature and then check)

### Low Temperature Test

Low Temperature  $-30\pm 3^\circ\text{C}$

Duration 96 hours (leave 6 hours in normal temperature and then check)

### Humidity Test

Temperature  $+30\pm 3^\circ\text{C}$

Relative Humidity 92%~95%

Duration 96 hours (leave 3 hours in normal temperature and then check)

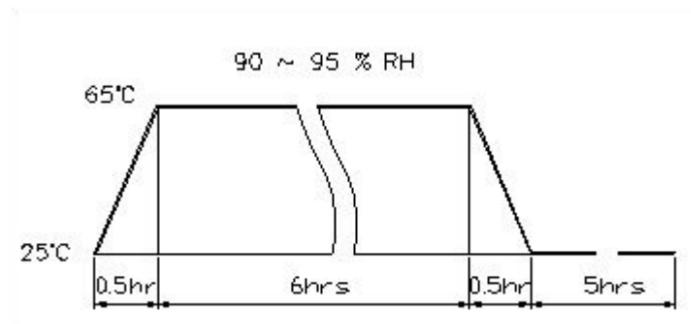
### Vibration

10Hz ~ 55Hz ~ 10Hz sine wave sweep 15 minute 5G(constant)

X, Y, Z 3 directions, 2 hours each, total 6 hours

### Temperature Cycle Test

The part will be subjected to 5 cycles. One cycle shall be 6 hours and consist of:



### Drop Test

Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm

### Load Test

Rate Power Pink noise is applied for 24 hours at room temp

### Lead Wire Pull Strength

The pull force will be applied to double lead wire

Horizontal 3.0N(0.306kg) for 30 seconds

Vertical 2.0N(0.204kg) for 30 seconds



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Speaker Electroacoustic Characteristics

General Specifications

### Page 2

Reliability Tests

### Page 3

Measuring Method (Speaker Mode)

Block Diagram for Measurement Method

### Page 4

Frequency Response Curve

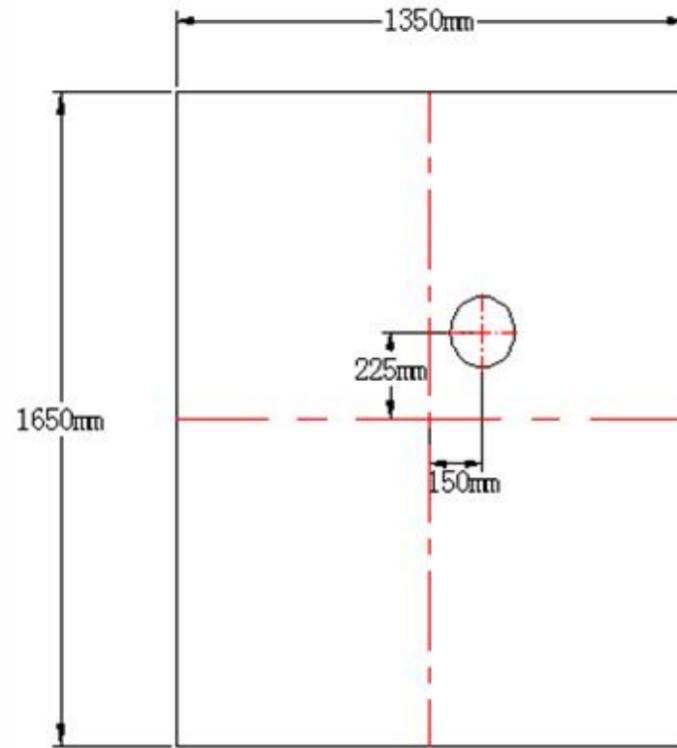
### Page 5

Dimensions

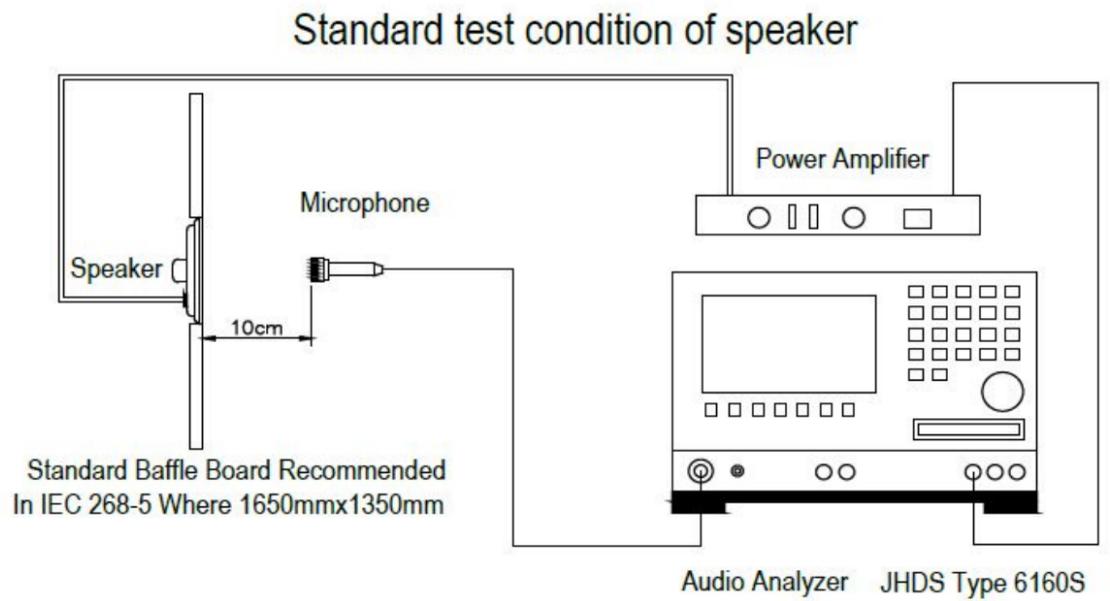
### Page 6

Packing

## Measuring Method (Speaker Mode) (Fig. 1)



## Block Diagram for Measurement Method (Fig. 2)





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This document contains the technical specifications for the dynamic speaker unit.

**Page 1**  
Speaker Electroacoustic Characteristics

General Specifications

**Page 2**  
Reliability Tests

**Page 3**  
Measuring Method (Speaker Mode)

Block Diagram for Measurement Method

**Page 4**  
Frequency Response Curve

**Page 5**  
Dimensions

**Page 6**  
Packing

## Frequency Response Curve (Fig. 3)

The swept sine-wave frequency response of a loudspeaker should ideally not deviate more than indicated.





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Speaker Electroacoustic Characteristics

General Specifications

### Page 2

Reliability Tests

### Page 3

Measuring Method (Speaker Mode)

Block Diagram for Measurement Method

### Page 4

Frequency Response Curve

### Page 5

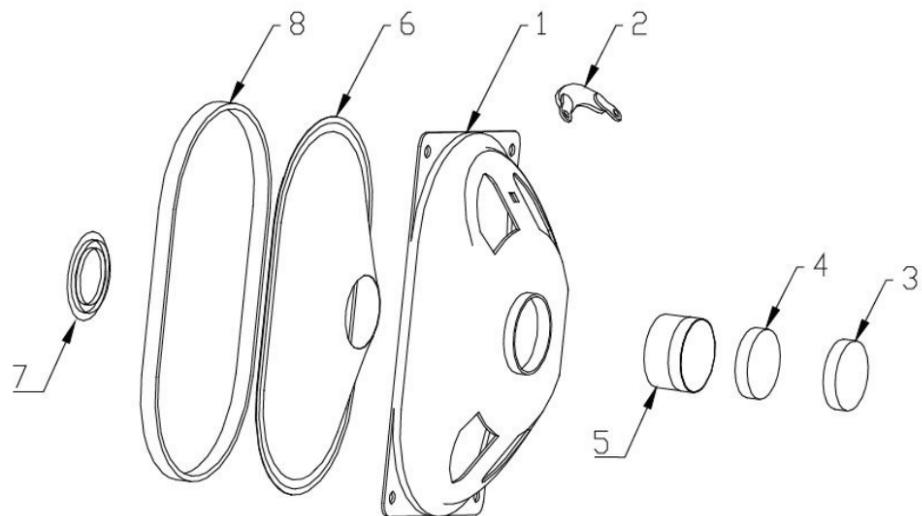
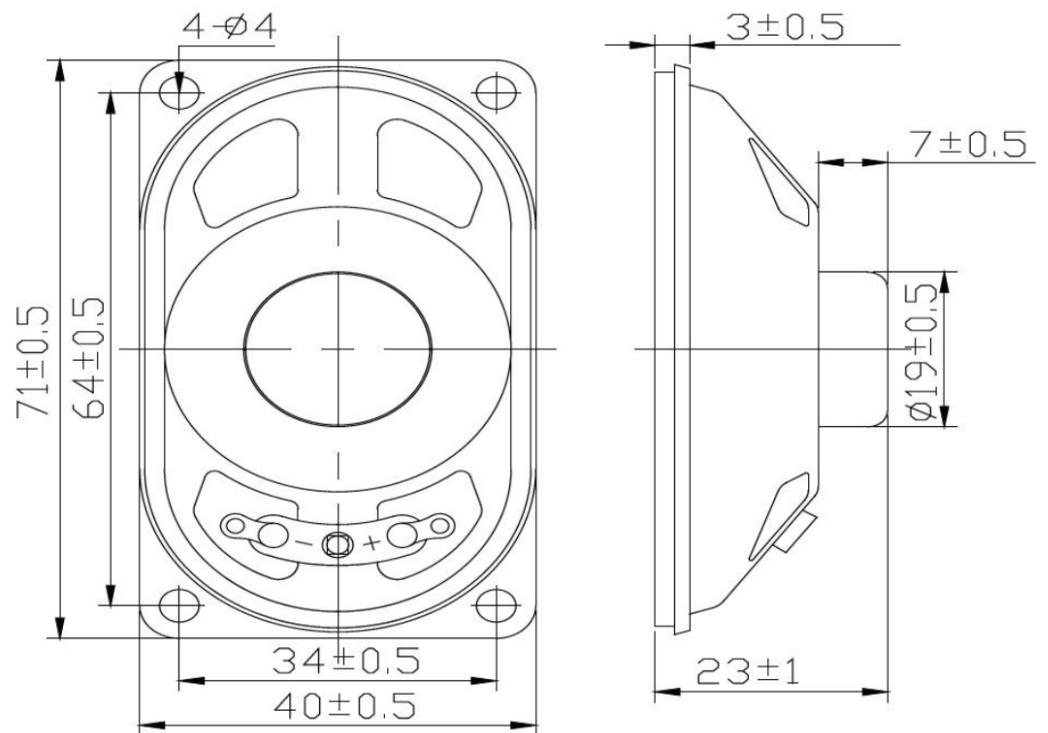
Dimensions

### Page 6

Packing

## Dimensions

Tolerance:  $\pm 0.5$  (unit: mm)



No.	Part Name	Material	Quantity
1	Frame	Metal	1
2	PCB Terminal	Paper + metal	1
3	Magnet	NdFeB	1
4	Plate	SPCC	1
5	Voice Coil	Paper + Cu	1
6	Diaphragm	Cloth + paper	1
7	Cap	Paper	1
8	Gasket	Paper	1



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General Specifications

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### Page 3

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Block Diagram for Measurement Method

### Page 4

Frequency Response Curve

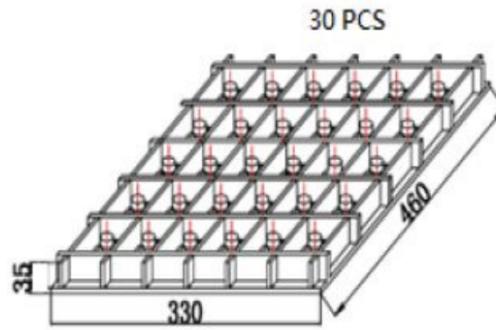
### Page 5

Dimensions

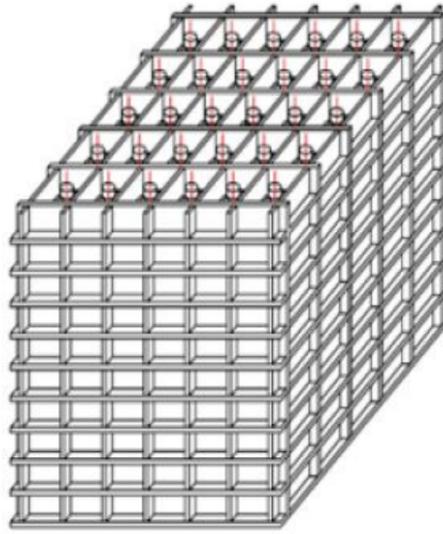
### Page 6

Packing

## Packing



300PCS/Carton  
Net Weight: 9Kg  
Gross Weight: 11Kg



30PCS x 10=300PCS

