

# *MESSRS*

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## SPECIFICATION FOR APPROVAL

## 承 認 書

Product	DYNAMIC SPEAKER
Part No.	AK-803108DC-1C-LF(RoHS)
Customer Approval	

Approved By	Checked By	Made By
工程部 王台平 DEC-05-2005	工程部 劉民祥 DEC-05-2005	工程部 許俊程 DEC-05-2005



**ADVANCED ACOUSTIC TECHNOLOGY CORP.**

**苙 翔 科 技 股 份 有 限 公 司**



ISO 9001 Certified

2F, No.207, Sec. 6, Chung Shan N. Rd., Taipei, Taiwan

Tel: +886-2-88665255

Fax: +886-2-88665250

e : <http://www.aatc.com.tw>

# 1. SPECIFICATION

AK-803108DC-1C-LF

ITEM		SPECIFICATIONS	
01	Type	Dynamic Speaker + Sound Box	
02	Dimension	External diameter 80 x 31.1 mm	
03	Rated Input Power	2.5 W	
04	Max. Input Power	3.0 W	
05	Impedance	8 ohm $\pm$ 15% at 1.5KHz	
06	Resonance Frequency (Fo)	630Hz $\pm$ 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	77dB(W/m) $\pm$ 3 dB	at AVE 1.0K,1.2K,1.6K,2.0K Hz.
		101dB(2.5W/0.1m) $\pm$ 3 dB	
08	Frequency Range	Fo – 9KHz	
09	Total Harmonics Distortion	Max. 9 % at 1 KHz,2.5W.	
10	Voice Coil	Diameter 13.5 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet $\Phi$ 12.5 x 2.5mm	
12	Weight	27g $\pm$ 5g	
13	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
14	Operation Test	Must be normal at program source 2.5W	
15	Buzz, Rattle, etc.	Should not be audible at 4.5V sine Wave between Fo to 20KHz	
16	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
17	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20°C to +60°C	
		Storage temperature: -30°C to +70°C	

## 2. MEASURING METHOD

### 2-1 .Test Condition

#### STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

#### JUDGEMENT

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

### 2-2 . Standard Test Fixture

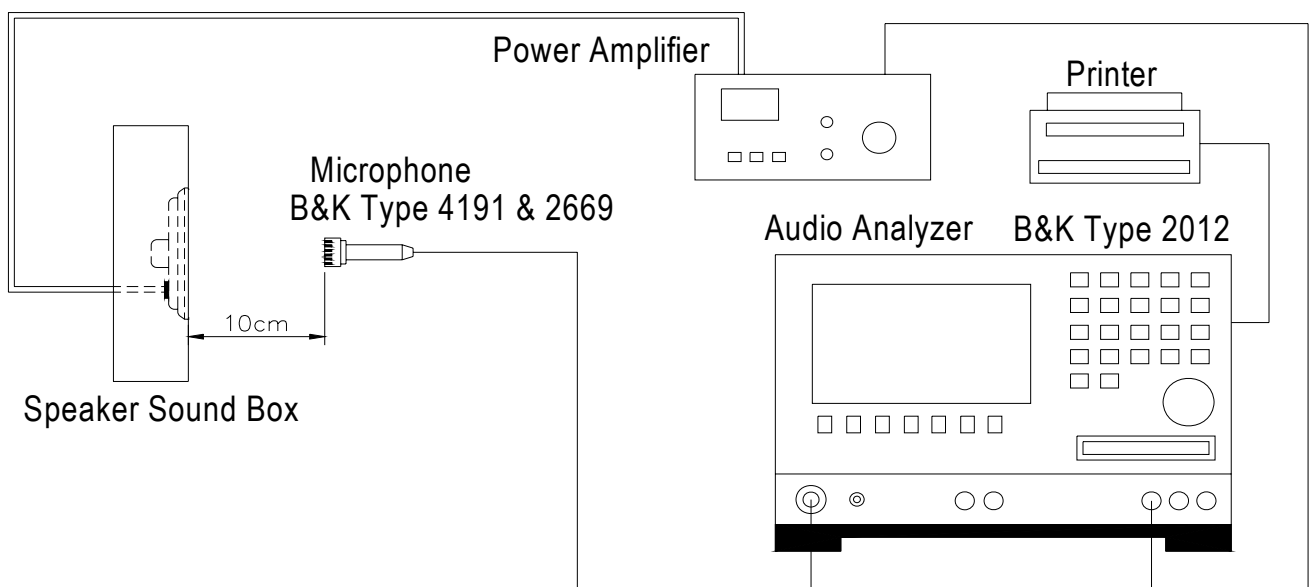
1.Input Power : 2.5W(4.5V)

2.Zero Level : -dB

3.Mode : SPEAKER

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec



## 2-3. Frequency Response Curve

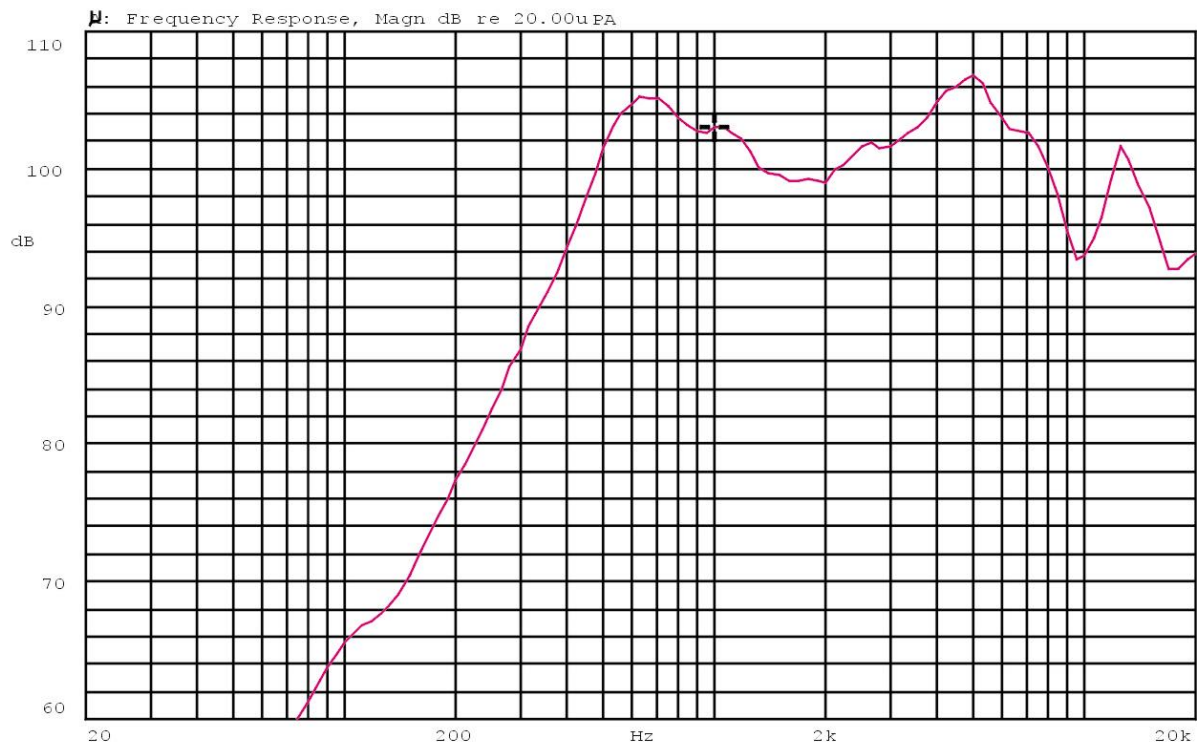
AK-803108DC-1C

X:1.0000kHz

\*Y:103.02dB

ZA:Live Curve

SSR Fund.

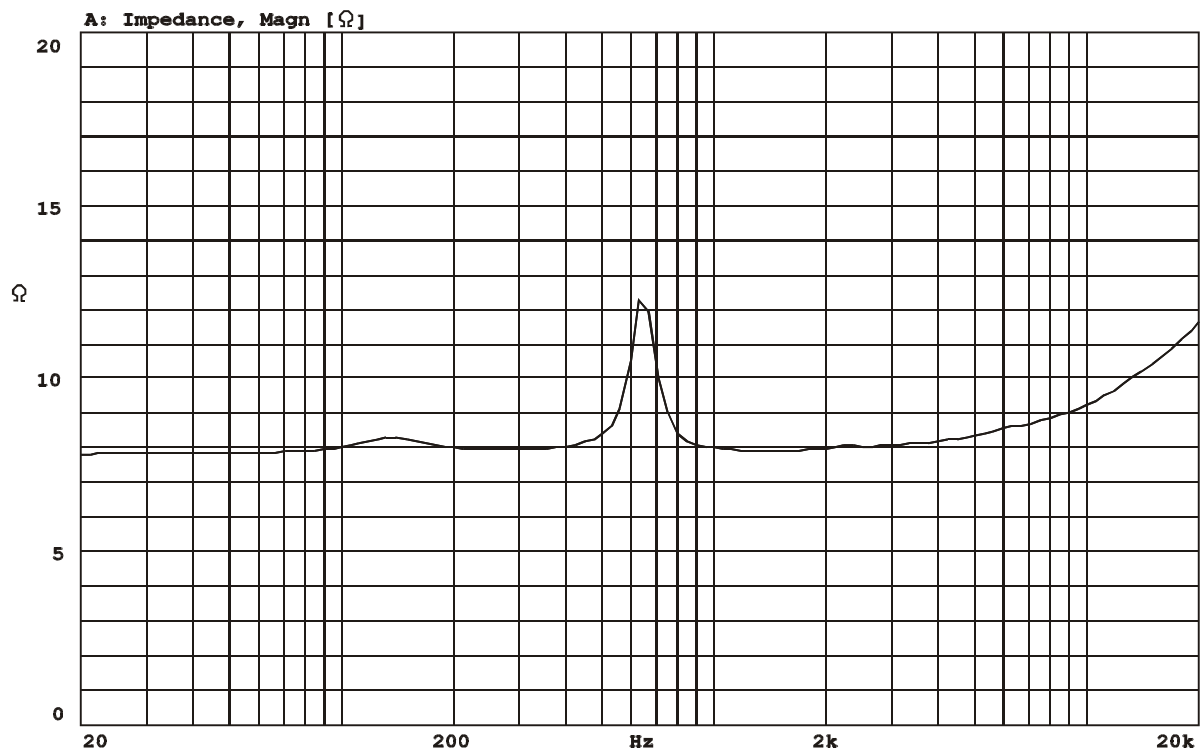


Mode: SPEAKER



## 2-4. Impedance Curve

IMPEDANCE MEASUREMENTS: Measurement of Impedance  $Z(j\omega)$   
ZA:Live Curve Impedance  $\Omega$



Mode:  $Z(j\omega)$

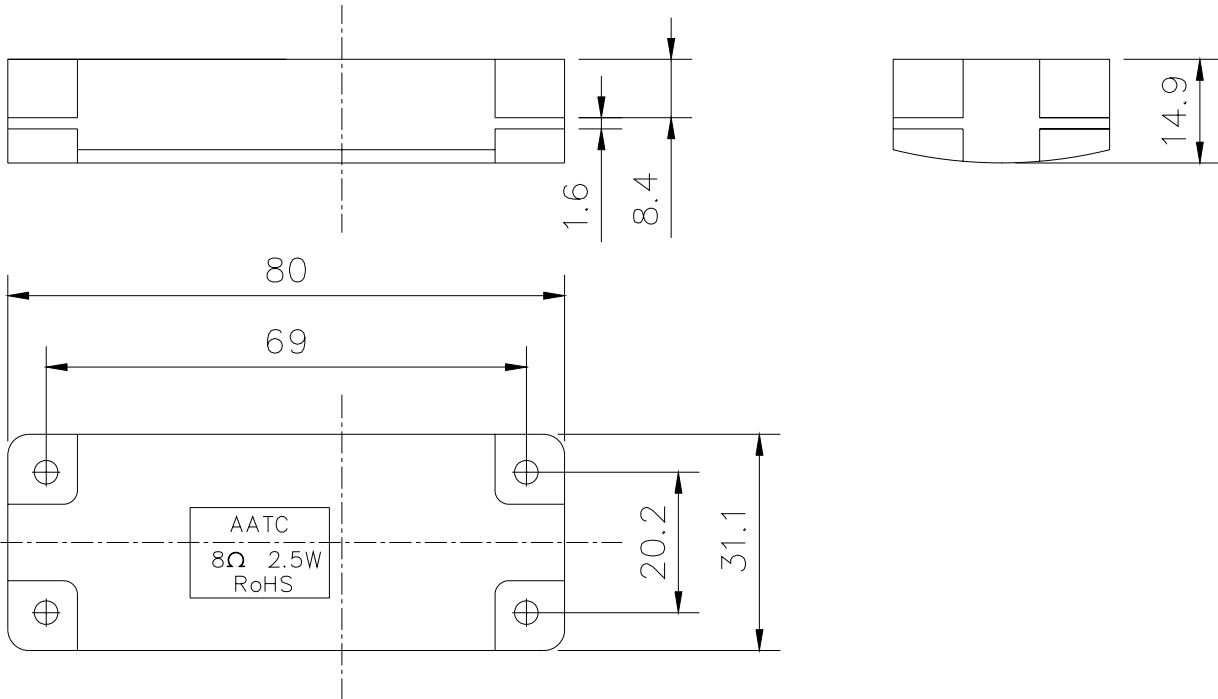
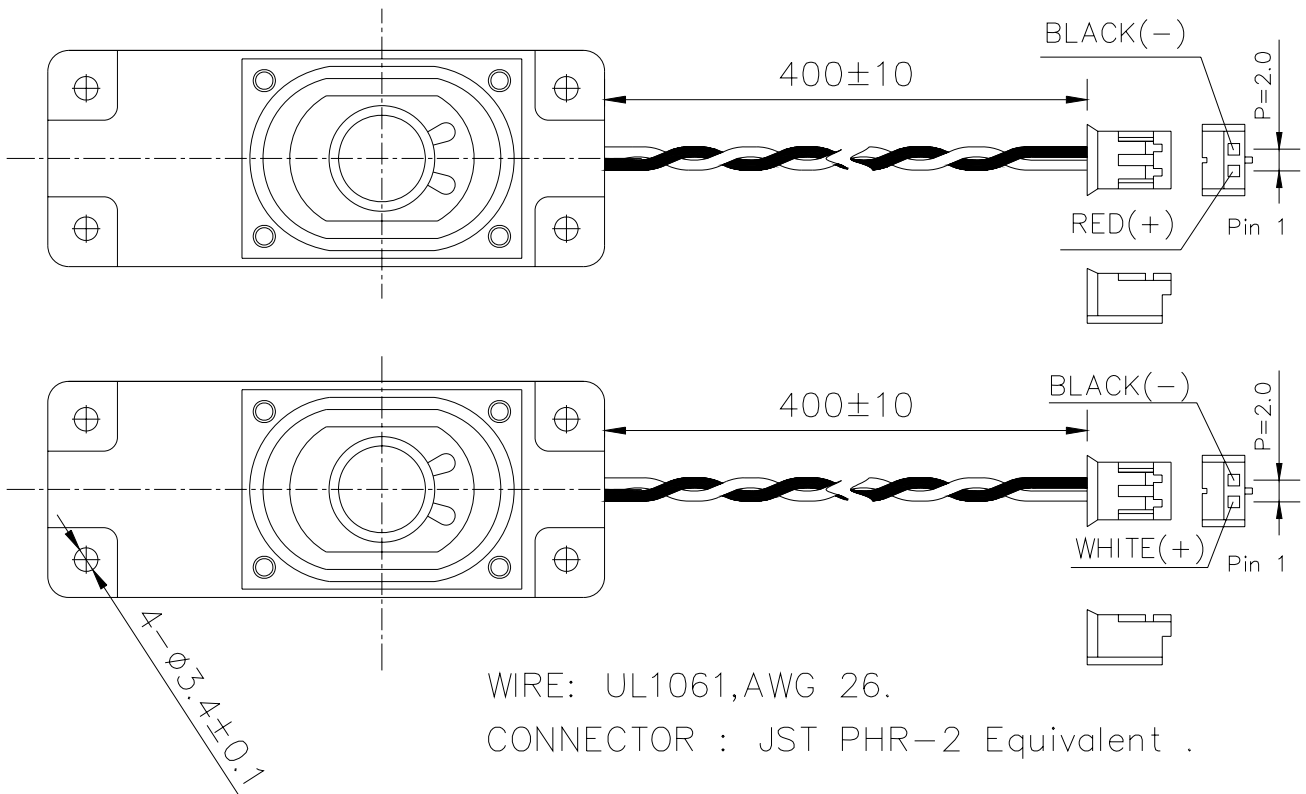


REV NO.

REVISION NOTE

APPROVAL

DATE



TITLE: DYNAMIC SPEAKER		DRAWN: JOHN 2005/12/05	SCALE: 1:1	SHEET: 1 of 1
PART NO. AK-803108DC-1C-LF		DESIGNED: R&D OF AAT	UNITS: mm	
DWG NO. DSE-1122		CHECKED:	TOLERANCE ± 0.5	
		APPROVAL:	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± *** TWO PLACE DECIMAL ± *** THREE PLACE DECIMAL ± ***	
REV	1	MATERIAL: ABS		



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### 3. RELIABILITY TESTS

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 96 hours at $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	Temp./Humidity cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p> <p style="text-align: center;"> <math>65^{\circ}\text{C}</math>  <math>90 \sim 95 \% \text{ RH}</math>  <math>25^{\circ}\text{C}</math>  <math>0.5\text{hr}</math>   <math>6\text{hrs}</math>   <math>0.5\text{hr}</math>   <math>5\text{hrs}</math> </p>
05	Thermal cycle test.	Low temperature: $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	10~200~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.
07	Fix drop test	Fix on jig. Then drop from 152cm height to the concrete floor X,y, z 6 direction. 5 times each, total 30 times.
08	Free drop test	Free drop from 100cm height to the concrete floor X,y, z 6 direction. 1 times each, total 6 times.
09	Load test	Rated Power white noise is applied for 96 hours
10	Max Power test	Max power 1 min on – 2 min off 10 cycles.
11	Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.
<p>CRITERION :</p> <p>After these test , the change of S.P.L shall be within <math>\pm 3 \text{ dB}</math> .</p>		

# SPEAKER RoHS REPORT Approval By SGS

NO	PART NAME	MATERIAL	APPROVAL NO.	PAGE
1	COVER	Fe	GZSCR040934664	8
2	FRAME	ABS	2008870	9
3	DAMPER	CLOTH	2021547	10
4	MAGNET	NdFeB	SH402661	11
5	WASHER	METAL	31244	12
6	COIL	Cu	50529	13
7	TUBE	PAPER	GZSCR041144722	14
8	DIAPHRAGM	PAPER	SZTYR050412388	15
9	BOARD	PAPER	GZSCR050103219 2003505	16 17
10	TERMINAL	Fe	GZSCR050105255	18
11	BOX	ABS	41697	19
12	WIRE	PVC	12659	20-21
13	CONNECTOR	PALSTIC	C5158	22
14	SOLDER	Sn	SH508388	23

