

OBO PRO.2 INC.

啓弘股份有限公司

No. 18, Yanwu Rd., Taoyuan City, Taiwan 330, R.O.C.
 TEL: 886-3-346-8636 FAX: 886-3-346-8645~6
 E-MAIL: sales@obopro2.com Website: www.obopro2.com

Specification for Approval

NO.:

Part Name : Electret Condenser Microphone

Model No. : OBO-08BN-0B-004

Date : JUL.01,2004

Page	Cover Page	1	2	3	4	5	6	7	8	9	10	11	12	
Version	B	B	B	B	B									

CHANGES

No.	Date	ECN. No.	Version	Description	Sign
---	AUG.07.'03	----	A	New Document	Sam Chen.
△	JUL.01.'04	0405010	B	Change Item 8. PACKAGING	Sam Chen.

Please kindly make approval of our samples, And return this form by fax or airmail, Thanks for your kind attention and co-operation.

(請對我們公司樣品給予承認, 承認後加蓋承認章以傳真或郵寄方式回覆, 謝謝貴公司的支持與合作)

Customer Name : _____

Customer Part No. : _____

Designed By	Checked By	Approval By

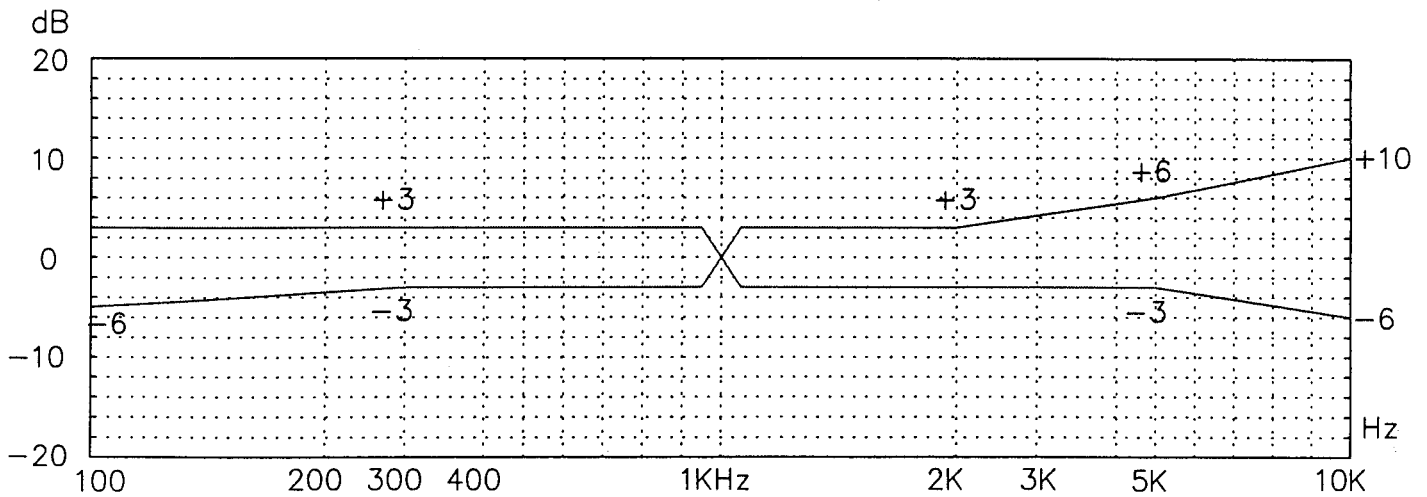
Model No. : OBO-08BN-0B-004

1.ELECTRICAL CHARACTERISTICS

Test Condition : (Vs=4.5V,RL=3.0KΩ,Ta=20±2°C,R.H.=65±5%)

Directivity : Omnidirectional							
No	Parameter	Symbol	Condition	Limit			Unit
				Min	Center	Max	
1.1	Sensitivity	S	F=1KHz,S.P.L.=1Pa 0dB=1V/Pa	-47	-44	-41	dB
1.2	Output Impedance	Zout	F=1KHz			3.0	KΩ
1.3	Current Consumption	Idss	Vs=4.5V, RL=3.0KΩ			500	μA
1.4	Signal to Noise Ratio	S/N	S: (F=1KHz, S.P.L.=1Pa) N: (A-Weighted Curve)	58			dB
1.5	Decreasing Voltage	Δ S-VS	Vs=3.0V to 1.5V			-3	dB

1.6 Typical Frequency Response Curve Limit

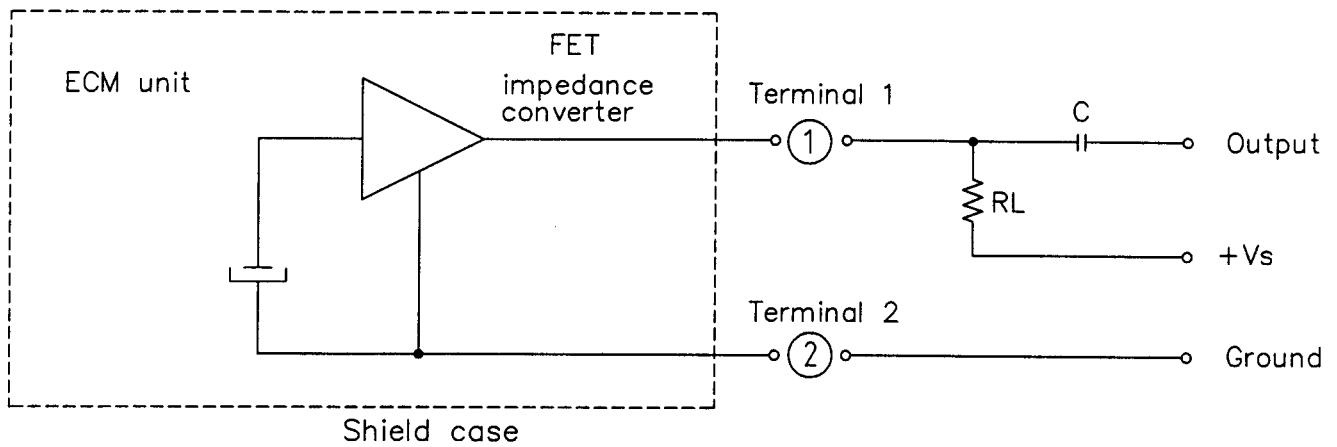


© Frequency : 50~16,000Hz

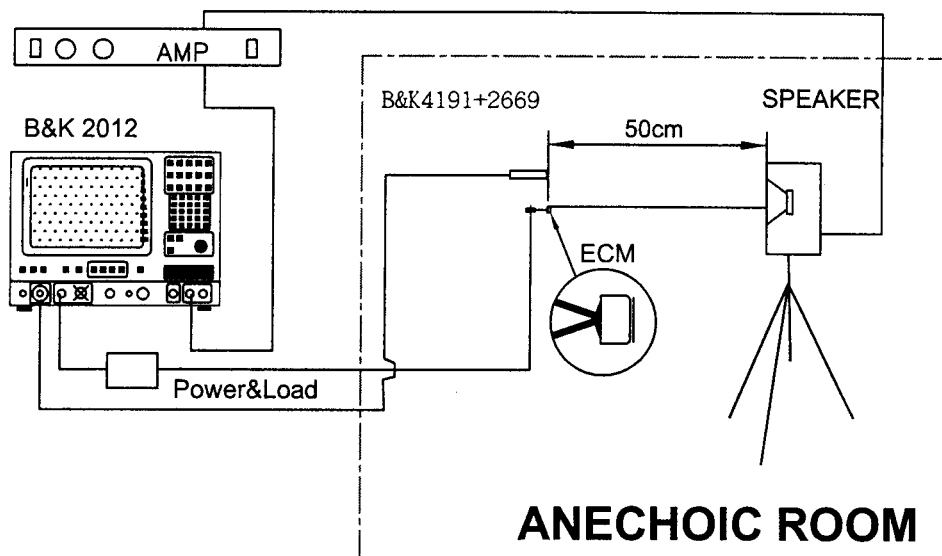
© Operating Voltage : 1V to 10V

Drawing by	Checked by	Approved by	Page No.	Model No.	Version	Date
陳子 Sam Chen JUL.01.2004	陳建合	陳建合 7/104	1	O8BN-0B-004	B	JUL.01,2004

2. MEASUREMENT CIRCUIT



3. MEASUREMENT METHOD

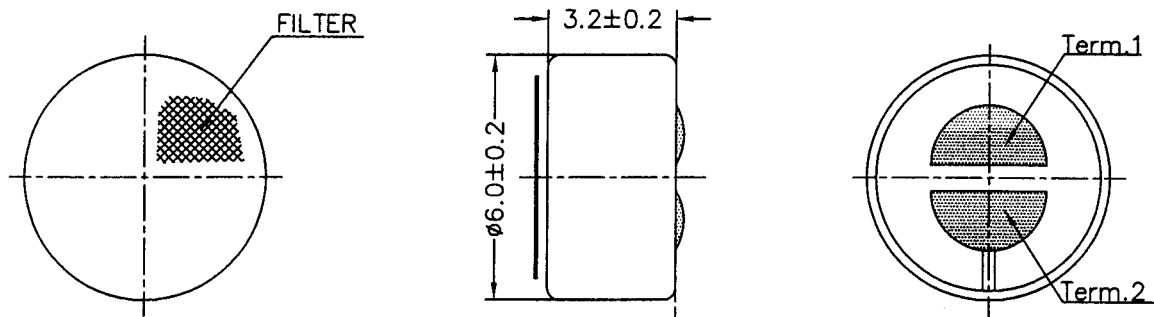


4. MECHANICAL CHARACTERISTICS

4.1 Soldering Standard : $260 \pm 5^\circ\text{C}$ / Max. 2 seconds

4.2 Weight : Appr. 0.2g

4.3 Mechanical Layout and Dimensions :



Unit: mm

Drawing by	Checked by	Approved by	Page No.	Model No.	Version	Date
Sam Chen 陳清宇 JUL.01.2004	陳建合	陳建合 7/10/04	2	08BN-0B-004	B	JUL.01,2004

5. TEMPERATURE CONDITIONS

5.1 Operating Temperature Range : $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$




5.2 Storage Temperature Range : $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$

6. RELIABILITY TEST

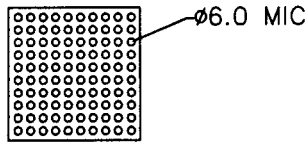
Vibration Test	To be no interference in operation after vibrations, 10Hz to 55Hz for full amplitude 1.5mm, for 2 hours at 3 axes.
Drop Test	The microphone unit without packaged must be subjected to each 3 drops at 3 axes, the height of 1 meter to 20 mm thick wooden board.
Temperature Test	(a) After exposure at $+70^{\circ}\text{C}$ for 72 hours, sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (b) After exposure at -25°C for 72 hours, sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25°C .)
Humidity Test	After exposure at $+60^{\circ}\text{C}$ and $90 \pm 5\%$ relative humidity for 240 hours. sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25°C .)
Temperature Cycle Test	After exposure at $+70^{\circ}\text{C}$ for 1 hr, from $+70^{\circ}\text{C}$ to $+25^{\circ}\text{C}$ for 0.5hr, at $+25^{\circ}\text{C}$ for 1hr, from $+25^{\circ}\text{C}$ to -20°C for 0.5hr, at -20°C for 1hr, from -20°C to $+25^{\circ}\text{C}$ for 0.5hr, at $+25^{\circ}\text{C}$ for 1hr, after 10 cycles, the sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25°C .)

7. CONCEPT OF UNIT

The difference between concept of unit "Pascal" and the one of unit " μbar " can be explained as follows. in calibrating the sensitivity of ECMS. the sensitivity is manifested differently according as the units "Pascal" or " μbar ". That is the sensitivity will be increased by 20dB in the usage of unit "Pascal". Example : $-62\text{dB}(\text{OdB}=1\text{V}/\mu\text{bar}) = -42\text{dB}(\text{OdB}=1\text{V}/\text{Pa})$

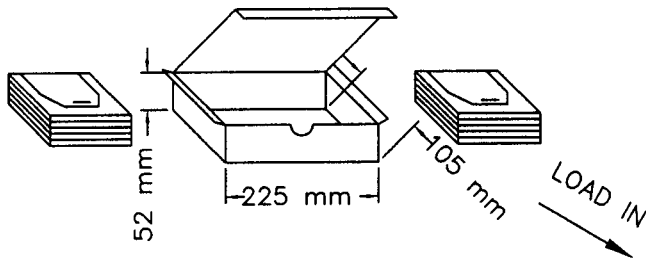
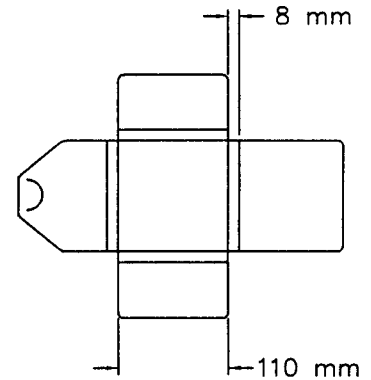
Drawing by	Checked by	Approved by	Page No.	Model No.	Version	Date
 Sam Chen JUL.01.2004			3	08BN-0B-004	B	JUL.01,2004

8. PACKAGING

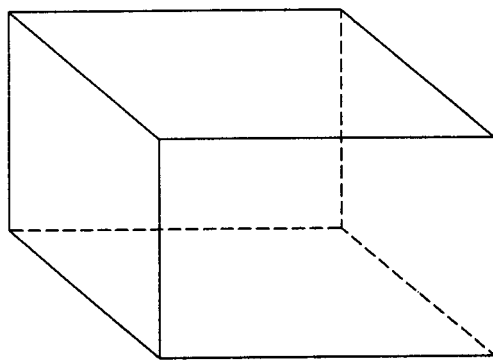


100 pcs / 1 Cardboard Tray

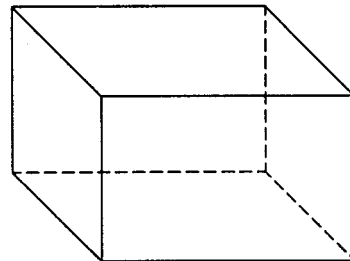
PUT INTO CARDBOX



10 CARDBOXES / PER
SMALL BOX(1000 pcs)



(480*240*270 mm)
2 MIDDLE BOXES / PER
CARTON (20000 pcs)



(230*230*260 mm)
10 SMALL BOXES / PER
MIDDLE BOX(10000 pcs)

LOAD IN

Drawing by	Checked by	Approved by	Page No.	Model No.	Version	Date
Sam Chen 陳錫宇 JUL.01.2004		7/104	4	08BN-0B-004	B	JUL.01,2004