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	CN	P/N: OWR-3052T-32A		Revision: 00

SPECIFICATION FOR APPROVAL Speaker

Part Number	OWR-3052T-32A
Note	This item is in compliance with the following requirements: 1. RoHS directive 2. Reach
Customer P/N	

Ole Wolff	Signature / Date	Prepared	Checked	Approved
		 2017.10.12		

Customer	Signature / Date	Confirmation		

REVISION NOTES:

Date	Rev.	Description of Revision
2017.10.12	00	Initial Release

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 6046 Comerstone Ct.West Suite 105 San Diego, CA 92121 USA TEL: +1 858 45 00 555 FAX: +1 858 45 00 508	OLE WOLFF ELEKTRONIK GmbH Schnackenburgallee 14 D-22525 Hamburg GERMANY TEL: +49 (0) 407669070 FAX: +49 (0) 40772929	OLE WOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26A,3F P.O. Box 257 FIN-40101 Jyväskylä FINLAND TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit 1-5, 10/F., Peninsula Tower, 538 Castle Peak Road, Lai Chi Kok, Kowloon HONG KONG TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF ELECTRONICS (M) SDN. BHD. 7, Persiaran Bukit Kecil 1, Taman Sri Nibong, 11900 Bayan Lepas, Penang MALAYSIA TEL: +604 646 9573 FAX: +604 643 0981
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1. SCOPE

THIS SPECIFICATION IS APPLIED FOR RECEIVER UNIT FOR A HEADSET.

2. TEST CONDITIONS

TEMPERATURE : 18°C ~ 22°C

HUMIDITY : 65 % +/-5% (R.H.)

ATMOSPHERE : 860 ~ 1060 hPa

3. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE : -20°C ~ 55° C

STORAGE TEMPERATUR RANGE : -25°C ~ 60° C

4. MECANICAL LAYOUT & DIMENSIONS

DIMENSIONS : SHOWN IN FIGURE.4

NET WEIGHT: 5.5+/-0.5g

5. ELECTRICAL AND ACOUSTICAL CHARACTERISTICS

1	IMPEDANCE	32ohm ±15% (at 1KHz)
2	SOUND PRESSURE LEVEL (SPL)	94dB ±3dB at 1KHz, Input 10mW /test distance=10mm Measurement setup as shown in FIG.1 SPL group: Group 1: 92dB +/-1dB 91 ~ 92.99dB dot marking = YELLOW Group 2: 94dB +/-1dB 93 ~ 94.99dB dot marking = BLUE Group 3: 96dB +/-1dB 95 ~ 97dB dot marking = RED
3	FREQUENCY RESPONSE	100Hz to 20 kHz. As shown in FIG.3
4	RESONANCE FREQUENCY	150 Hz ± 30Hz at 0.56V (10mW) (without baffle)
5	TOTAL HARMONIC DISTORTION (THD)	Upper limit for THD as shown in FIG.3 Input:0.56 V(10mW)
6	RUBB AND BUZZ	MUST BE NORMAL SINE WAVE FROM 50Hz TO 10kHz. Rated input power 10mW Hearing test. Speaker in vertical position. Free air.
7	INPUT POWER	(Nom. / Max.) 10mW/30mW
8.	SWEEP TEST	Input 0.56V from 50Hz-10KHz must be normal with sine wave.

OLE WOLFF
ELEKTRONIK A/S
Roedengvej 25
4180 Soroe
Denmark

TEL: +45 57833830
FAX: +45 57820019

OLE WOLFF ELECTRONICS
INC.
6046 Cornerstone Ct.West
Suite 105
San Diego, CA 92121
USA

TEL: +1 858 45 00 555
FAX: +1 858 45 00 508

OLE WOLFF
ELEKTRONIK
GmbH
Schnackenburgallee 14
D-22525 Hamburg
GERMANY

TEL: +49 (0) 407669070
FAX: +49 (0) 40772929

OLE WOLFF ELECTRONICS
3 Bedford Street, Woburn,
Bedfordshire MK17 9QB,
ENGLAND

TEL: +44 (0) 1525 290755
FAX: +44 (0) 1525 290855

OLE WOLFF
ELEKTRONIK
Yliopistonkatu 26A,3F
P.O. Box 257
FIN-40101 Jyväskylä
FINLAND

TEL: +358 14 338 3050
FAX: +358 14 338 3059

OLE WOLFF (ASIA) LTD.
Unit 1-5, 10/F.,
Peninsula Tower,
538 Castle Peak Road,
Lai Chi Kok, Kowloon
HONG KONG
TEL: +852 2424 3274
FAX: +852 2424 2219

OLE WOLFF ELECTRONICS
(M) SDN. BHD.
7, Persiaran Bukit Kecil 1,
Taman Sri Nibong, 11900
Bayan Lepas, Penang
MALAYSIA
TEL: +604 646 9573
FAX: +604 643 0981

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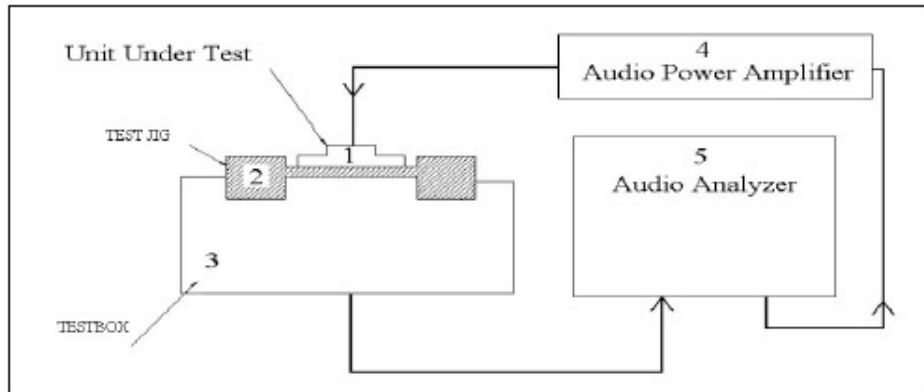
6.QUALIFICATION TESTS

In hearing test process without audible noise after below test. The measurement shall be done after minimum 1 hour and maximum 2 hours of conditioning at 18°C~22°C			
No.	ITEMS	TEST CONDITION	
1	HITH TEMPERATURE TEST	Temperature	55± 3° C
		Duration	96hrs
2	LOW TEMPERATURE TEST	Temperature	-20± 3° C
		Duration	96hrs
3	HIGH TEMPERATURE HUMIDITY TEST	Temperature	40±2° C
		Humidity	90%--95%(RH)
		Duration	96hrs
4	DROP TEST	Height	1.0m
		Total times	10 times each at hardwood floor
5	TEMPERATURE CYCLE TEST	Temperature	-20°C±3 ↔25°C ↔55±3°C
		Test time and cycle	2hour↔ 5min↔2hour 5 Cycles
6	RATED POWER TEST	Test signal and Temperature	white Noise / 25° C
		Test input power	0.01W /0.56Vrms
		Duration	96 hrs
7	VIBRATION TEST	Vibration	10~55 Hz/min
		Amplitude	1.5mm
		Duration	1 hour each plan

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 6046 Cornerstone Ct.West Suite 105 San Diego, CA 92121 USA TEL: +1 858 45 00 555 FAX: +1 858 45 00 508	OLE WOLFF ELEKTRONIK GmbH Schnackenburgallee 14 D-22525 Hamburg GERMANY TEL: +49 (0) 407669070 FAX: +49 (0) 40772929	OLE WOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26A,3F P.O. Box 257 FIN-40101 Jyväskylä FINLAND TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit 1-5, 10/F., Peninsula Tower, 538 Castle Peak Road, Lai Chi Kok, Kowloon HONG KONG TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF ELECTRONICS (M) SDN. BHD. 7, Persiaran Bukit Kecil 1, Taman Sri Nibong, 11900 Bayan Lepas, Penang MALAYSIA TEL: +604 646 9573 FAX: +604 643 0981
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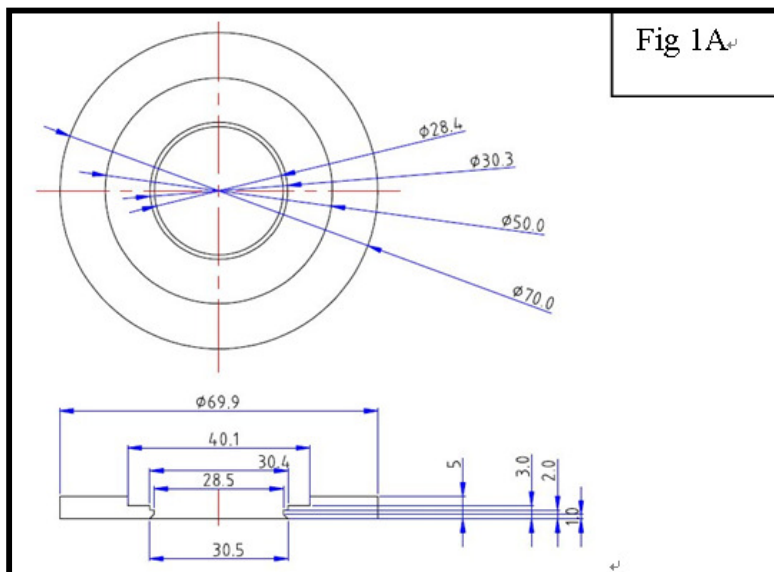
7. TEST SET UP (FIG1)



MEASUREMENT CIRCUIT FOR DYNAMIC SPEAKER

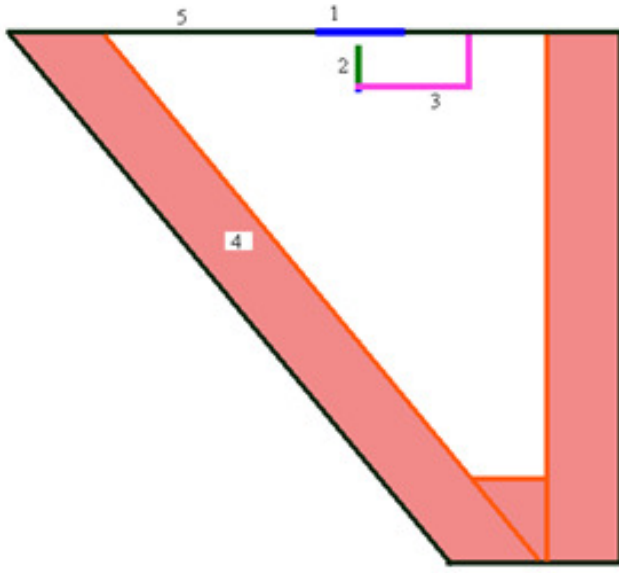
NO	EQUIPMENT	REMARKS
1.0	UNIT UNDER TEST	SPEAKER
2.0	TEST JIG	OW TEST JIG
3.0	TEST BOX	OLE WOLFF STANDARD BOX
4.0	AUDIO POWER AMPLIFIER	CRATE AUDIO SPA300
5.0	ANALYZER	LISTEN SOUNDCHECK

8. TEST BOX:OWBOX . (FIG.2)

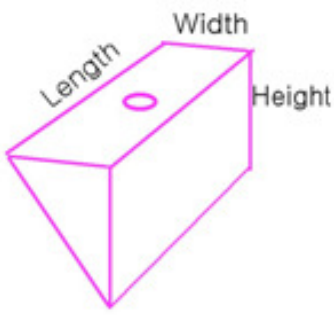


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Dimension of test box:
Length: 97cm
Width: 46cm
Height: 68cm
Foam thickness : 8cm
Wood wall are 1.8cm thickness.

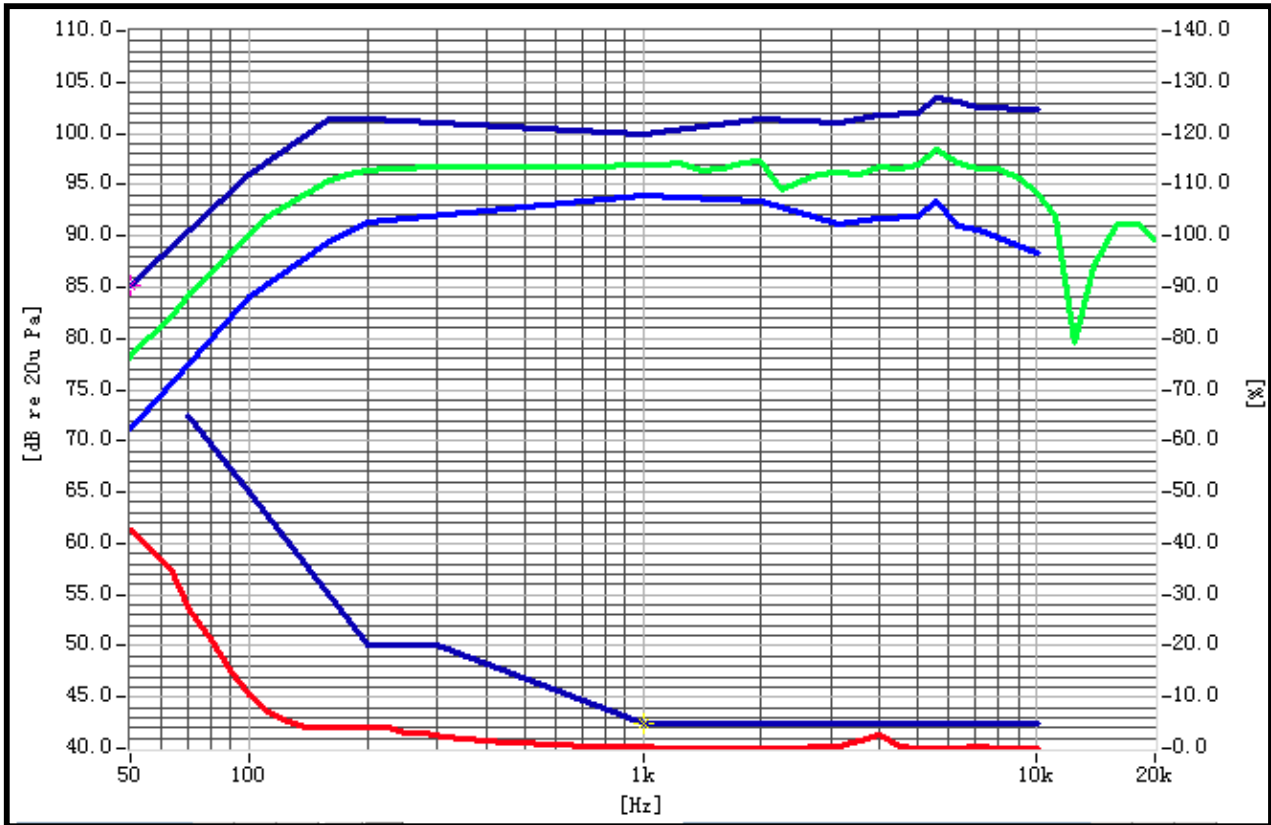


NO	EQUIPMENT	REMARKS
1.	TEST JIG	FIG. 1A
2.	MICROPHONE	½ INCH Microphone
3.	MICROPHONE HOLDER	
4.	DAMPING MATERIAL	FOAM RUBBER
5.	BOX	WOOD
6.	Test distance measured from front of speaker frame to front of test microphone	10mm

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 6046 Comerstone Ct.West Suite 105 San Diego, CA 92121 USA TEL: +1 858 45 00 555 FAX: +1 858 45 00 508	OLE WOLFF ELEKTRONIK GmbH Schnackenburgallee 14 D-22525 Hamburg GERMANY TEL: +49 (0) 407669070 FAX: +49 (0) 40772929	OLE WOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26A,3F P.O. Box 257 FIN-40101 Jyväskylä FINLAND TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit 1-5, 10/F., Peninsula Tower, 538 Castle Peak Road, Lai Chi Kok, Kowloon HONG KONG TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF ELECTRONICS (M) SDN. BHD. 7, Persiaran Bukit Kecil 1, Taman Sri Nibong, 11900 Bayan Lepas, Penang MALAYSIA TEL: +604 646 9573 FAX: +604 643 0981
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9. STANDARD FREQUENCY RESPONSE CURVE & STANDARD THD CURVE (FIG.3)



F&R Mask:

F.Point	50	100	160	200	1000	2000	3.15K	4K	5K	5.6k	6.3k	7.1k	10K	Hz
Upper Limit	+7	+6	+6	+5	+3	+4	+5	+5	+5	+5	+6	+6	+8	dB
Lower Limit	-7	-6	-6	-5	-3	-4	-5	-5	-5	-5	-6	-6	-6	dB

THD Mask:

F.Point	70	100	200	300	1000	10000	Hz
Upper Limit	65	50	20	20	5	5	%

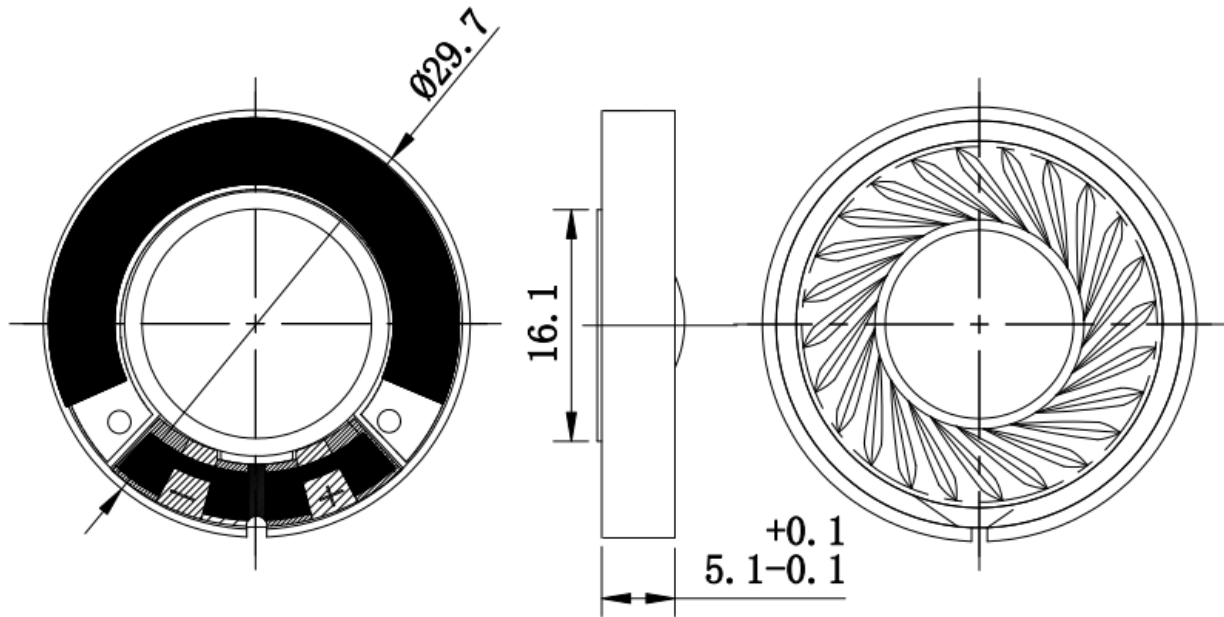
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10. DIMENSIONS. (FIG.4)

UNIT: mm

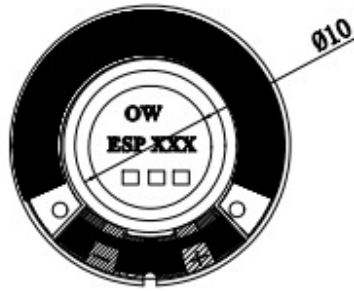
TOLERANCE: +/-0.2



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11. MARKING METHOD

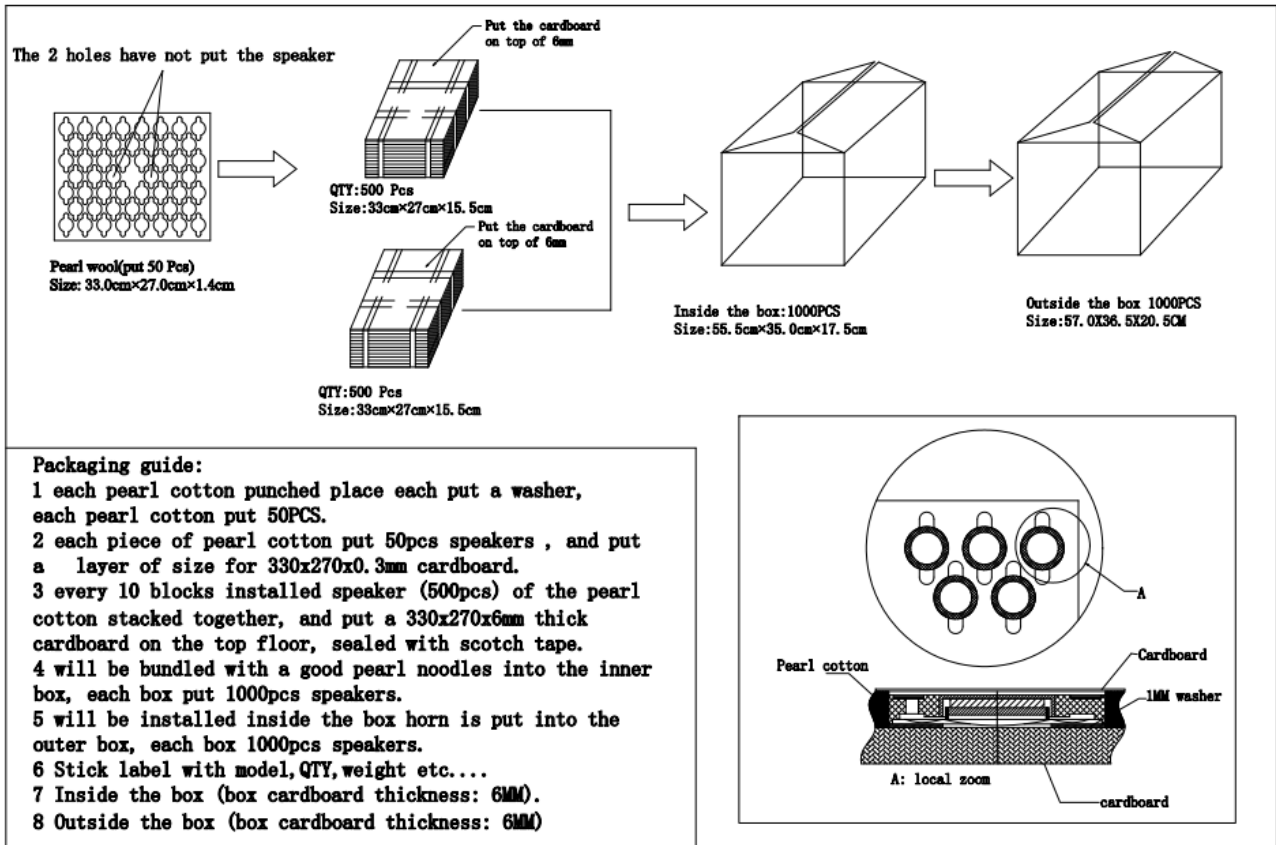


YEAR		WEEK	
year	marking	week	marking
2017	7	1	01
2018	8	2	02
2019	9	3	03
2020	0	4	04
2021	1	5	05
2021	2	↓	↓
		52	52
		53	53
		54	54

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12.PACKAGING



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