

Engineering Design and Test Specification (EDS)
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Model Name: ARRAY 8C
Part Number: 361279-001
Description: 8 inch woofer / midrange
Division: JBL
Where used: 880 Array Center channel system

Approved Supplier: GGEC

Design Engineer: Jerry Moro

Approval Sample number: GGEC EPR sample # N1802 unit # 3

Approved Production Line Reference

Standard (chosen from MSB / Pilot / Production runs):

Data Code:

GGEC MSB unit #1, Eng STND	4/19/2005
GGEC MSB unit #10, QA STND #2	4/19/2005
GGEC MSB unit #11, SYS STND #1	4/19/2005
GGEC MSB unit #18, QA STND #1	4/19/2005
GGEC MSB unit #21, GGEC STND	4/19/2005
GGEC MSB unit #24, SYS STND #2	4/19/2005

Pages: 9

Revision: X2

5/24/05

Engineering Test and Performance Specification

Purpose:

To define and establish a reference for the JBL Engineering approved performance characteristics of the stated model. To define the type of testing, and minimum conditions for testing, of production units of the stated model. To insure that the JBL design and performance intent is met. The performance data contained in this document is taken from the JBL Engineering Reference Standard unit that is held in the Harman Northridge facility.

This document is a JBL Engineering specification only and does not attempt to establish AQL or Visual acceptance levels or other criteria that are set forth and enforced by the Customer Purchasing, Incoming Inspection, and Quality Assurance groups.

Contents:

- 1) Physical and Mechanical Specifications
- 2) Engineering Test Specification (ETS)
 - Defines minimum testing for production units and response variation tolerance
- 3) Performance Specification
 - T/S Parameters
 - Frequency Response
 - Harmonic Distortion
 - Impedance

Physical and Mechanical Characteristics

Model name: ARRAY 8C **JBL Part #** 361279-001
Description: 8 inch woofer / midrange

Motor steel and Plating type: Typical 1008 / 1010 low carbon steel with Clear Zinc plating
Frame Type: Cast Aluminum **Frame Finish:** Powder Coat Black
Outer Dia. 228.6mm **Mounting Depth:** 103.6mm
Mounting Dia: 182mm **Overall Height:** 117mm

Trim Ring: **Type:** None **Color:** n/a
Surround: **Type:** Butyl or NBR rubber **Color:** Black
Cone: **Type:** Paper Pulp, Restruck with 5-ribs **Color:** Black
Dome: **Type:** Paper pulp, Restruck **Color:** Black

Front Gasket: **Type:** None **Color:** n/a
Rear Gasket: **Type:** 0.030 Neoprene rubber **Color:** Black
Tinsel Lead **Type:** Silver-twisted tinsel leads **Attachment:** Soldered to Cone Eyelets
Terminal: **Type:** Male Lugs **Lug Size:** 0.250 inch and 0.205 inch
Polarity: EIA STND - Positive applied to RED (.250) terminal moves cone away from magnet

Voice Coil: **Diameter:** 36.0mm VCID **Wire:** 0.19mm Copper round
Layers: 2 **Former:** Kapton, 0.125mm thick
Turns: 139 +/-4 **Wrapper:** Kraft paper, 0.1mm thick
Winding Length : 16.0mm +/- .3mm **DCR:** 10.0 +/- 0.5 Ohms

Top Plate: **Thickness:** 4.75 mm
Primary Magnet: **Type:** Ceramic 5 **OD:** 99.6mm **Thickness:** 20.0mm
Bucking Magnet: **Type:** Ceramic 5 **OD:** 80.3mm **Thickness:** 15mm
Shield Can: **Yes or No** none **OD:** n/a **Thickness:** n/a

Notes: Design is "overhung" type with long coil and short gap height.

Model ARRAY 8C	Engineering Test Specification	Document Number TBD	Rev X2			
1. Model Description: 8 inch woofer / midrange						
Model Part # 361279-001 <small>(Part # listed is S/M level for systems and M/I level for transducers)</small>	Design Engineer: Jerry Moro					
Shipping Weight: 4.75 LBS	Packaging Test Method:					
2. Dynamic Test: (100% test) Input Voltage (@ lowest sweep range): 10 vrms sweep						
Sweep Range: 500 to 20Hz	Sweep Duration: 4 seconds					
3. Power Test-Production Audit of 6 pcs @ each run: (Must EPR Qualify at 100 hours@same spec)						
Input Signal: Pink Noise	Filter: 50-500Hz					
Crest Factor: 6 dB	Duration (hours): 2 hrs	Input Voltage: 23.0 Vrms				
4. Impedance: (Ref only) D.C. Resistance: 10.0 ohms						
Rated Impedance: 12.0 ohms	Min. Impedance: 11.0 ohms	Motional Impedance:				
Thiele-Small; See:		Impedance Curve; See:				
5. Polarity: (Automatically checked 100% during Canetics test): EIA STANDARD						
<small>EIA = + volt. to + term. gives forward cone movement, phase detector green; JBL = + volt. to + term. gives reverse movement, phase detector red.</small>						
For System only (this section not applicable to transducers alone):						
Description:		Polarity:				
Driver 1:						
Driver 2:						
Driver 3:						
6. Frequency Response Test: (100% test)						
Mic Position (inches):	X:	Y:	Z: <small>X=vert., Y=Horiz., Z = Dist from baffle. 0,0,0 = lower left corner facing speaker front</small>			
Crossover Frequencies (System Ref):						
Canetics File Name		Test Voltage				
Stimulus File	Gate Length	Pregate Length				
Number of Stacks	Mic Distance	Max Noise				
	Frequency		Bins Per	Rolltoff	Tolerance	
Channel 1	Start	Stop	Octave	dB/Octave	Upper	Lower
Group 1	95 Hz	640 Hz	6	36	1.0 dB	1.0 dB
Group 2	678 Hz	3225 Hz	6	36	1.5 dB	1.5 dB
Group 3	3417 Hz	6089 Hz	6	36	4.0 dB	4.0 dB
Group 4						
Group 5						
Group 6						
Group 7						
Group 8						
<small>Note: Group ranges listed per OF1004, rev B. Frequencies shown are effective ranges of group(s).</small>						
7. Other:						
Signatures						
Marketing:		Date	Proc. Eng:		Date:	
Mfg Engr.:		Date	Dev. Engr.:		Date:	
QA Lab:		Date				

Revision History

Rev	Release Action	Date	Rev Initials
X1	Initial release	5/24/2005	Jerry Moro
X2	Group 3 tolerance changed	9/26/2005	Jerry Moro

MLSSA Parameters (MSB unit #1, ENG STND)

MLSSA SPO 4WI #010227-3479-3488 for Harman Consumer Group
 Measured Parameters QC Limits

Line	Parameter	Value	Units
1	RMSE-free	0.41	Ohms
2	Fs	36.48	Hz
3	Re	9.96	Ohms
4	Res	29.92	Ohms
5	Qms	1.96	
6	Qes	0.65	
7	Qts	0.49	
8	L1	0.39	mH
9	L2	0.52	mH
10	R2	7.10	Ohms
11	RMSE-load	0.32	Ohms
12	Vas(Sd)	49.00	liters
13	Mms	24.94	grams
14	Cms	763	μ M/Newton
15	B1	9.35	Tesla-M
16	SPLref(Sd)	86.5	dB[8 ohms]
17	Rub-index	0.00	

Method: Mass-loaded (40.250 grams) Area (Sd): 213.82 sq cm
 DCR mode: Fixed (10.48 - 0.52 ohms) QC file: CLOSED

Analysis successful. Shift in Fs = -40.1% (-20% to -50% is recommended).

#1 Tiaray MSB. 4-20-05

GGE
 ENG STND ARRAY 8C

MLSSA: Parameters

Revision: X2

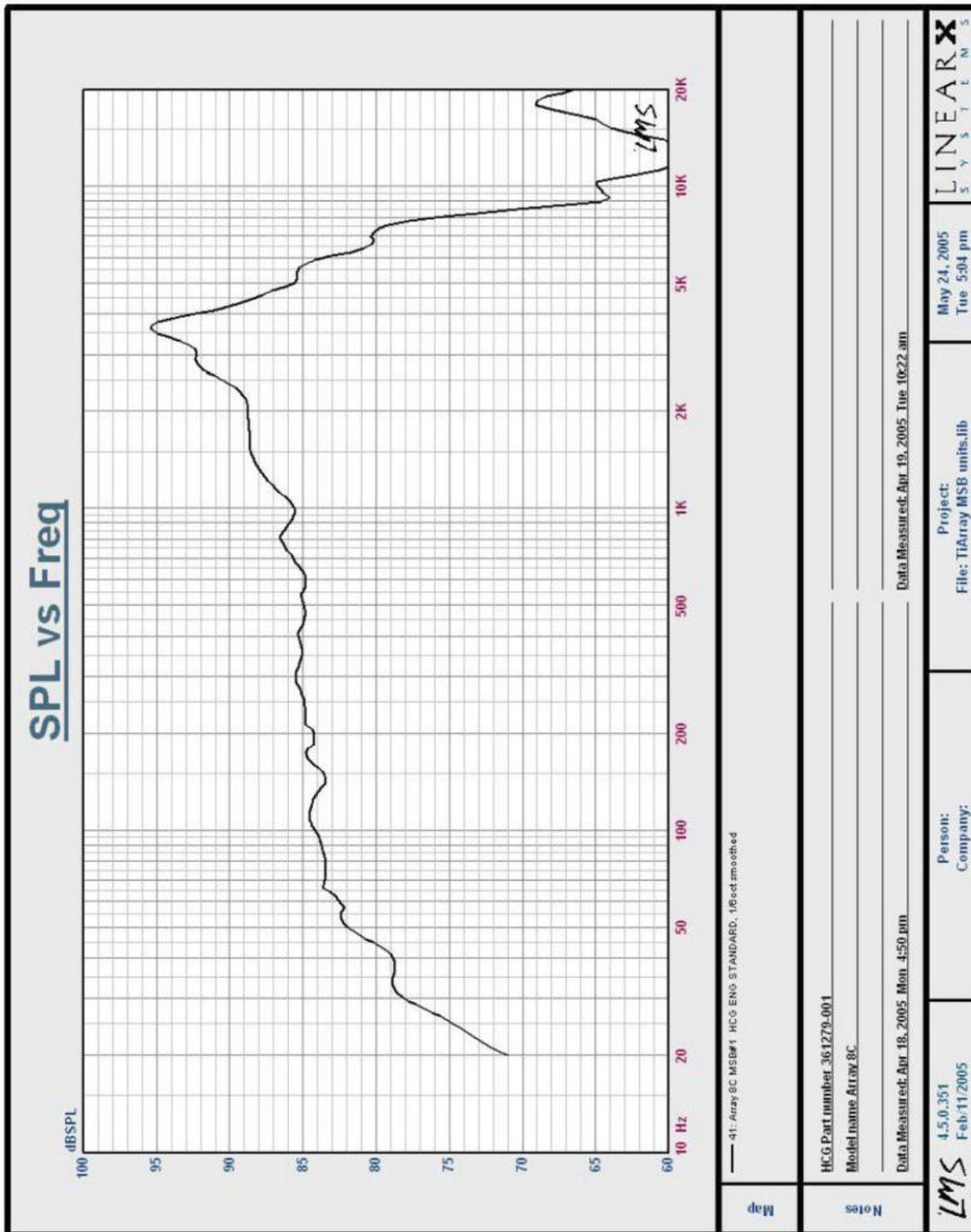
Date:

5/24/05

ARRAY 8C

361279-001

Frequency Response, 2.83Vrms @ 1Meter - 2pie



Map

Notes

HCG Part number: 361279-001
 Model name: Array 8C

Data Measured: Apr 18, 2005 Mon 4:50 pm

Data Measured: Apr 19, 2005 Tue 10:22 am

Person: 4.5.0.351
 Company: Feb-11/2005

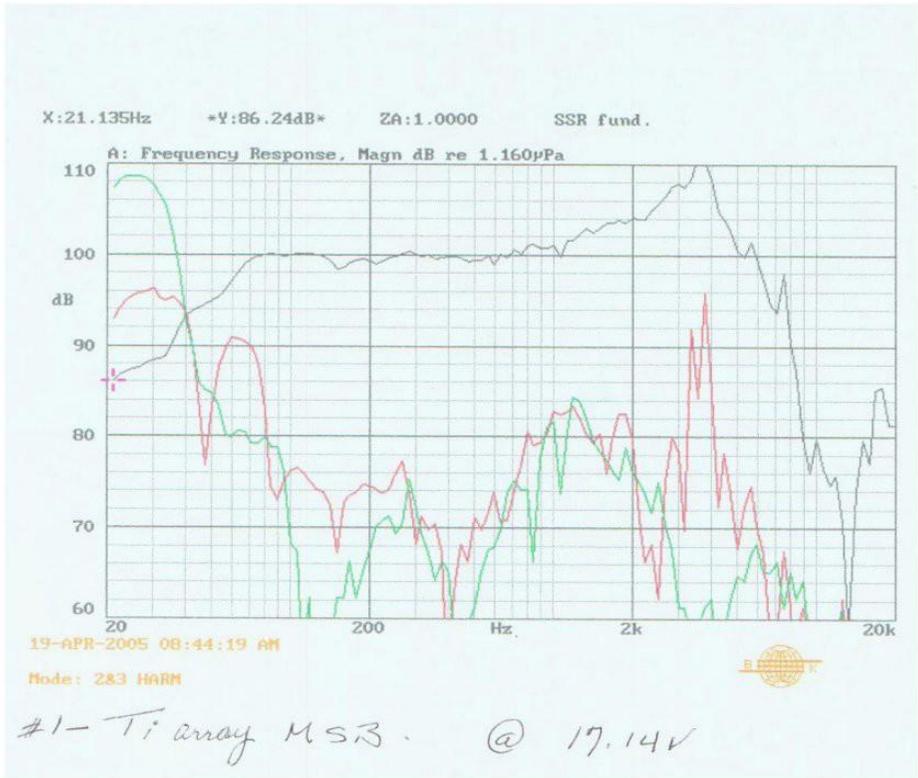
Project: File: TIArray MSB units.lib

May 24, 2005
 Tue 5:04 pm

LINEAR
 S Y S T E M S

LMS

2nd and 3rd Harmonic distortion raised 20dB relative to Fundamental
Red = 2nd , Green = 3rd
17.14 volt at 1 Meter for approx 100dB midband output



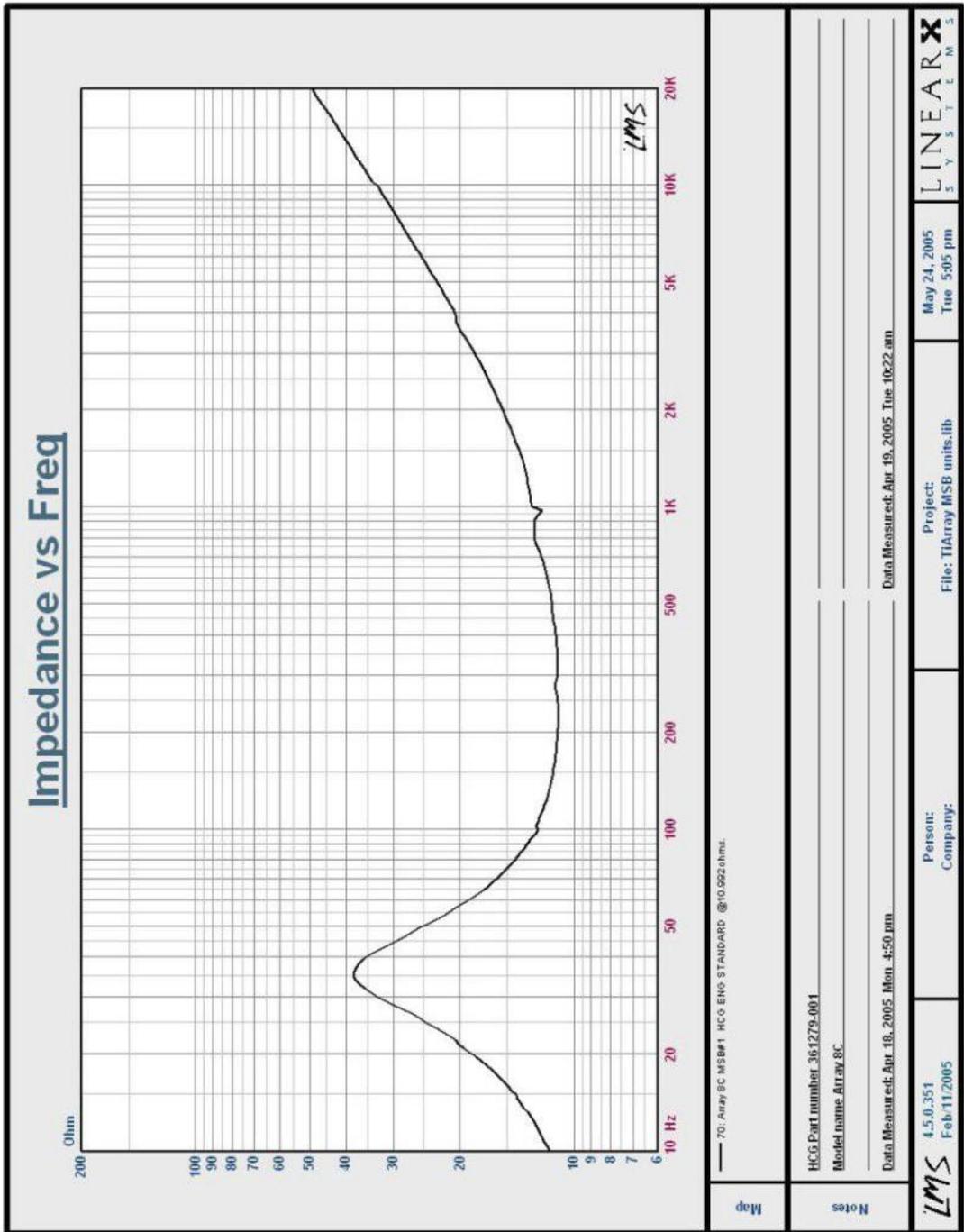
Revision: X2

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ARRAY 8C

361279-001

LMS Impedance



70: Array BC MSB#1 HCG ENG STANDARD @10.9926hms.

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L I N E A R X
 S Y S T E M S