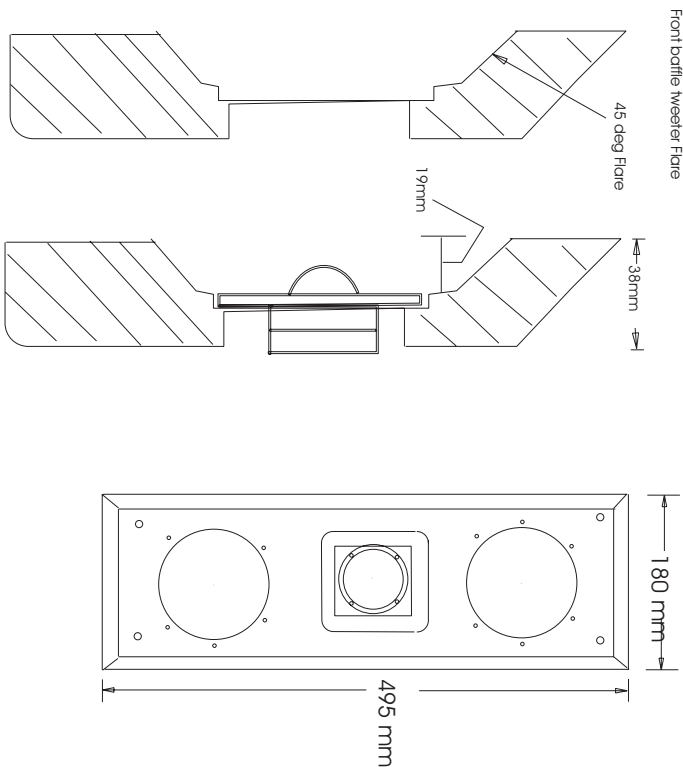


AUDIOPHILE MONITOR 2-WAY 3-SPEAKER
SATELLITE & SURROUND SPEAKER



Construction Notes

- Cabinet Thickness varies with thickness of chosen material
- Internal Dimensions W X D X H mm (146 x 253 x 493)
- Top /bottom / Left/Right side panels mltie joints
- Front and rear baffles rebotted in 17mm
- Front Twin Baffles rebotted in 34mm
- Outside Dimension = Inside Dim + 17mm raw MDF
- Peerless 5" Hole Cut out = 120 mm
- Vent ID =50 mm
- Vent length = 146mm

REVISIONS		1
REV.	DESCRIPTION	DATE

Terminal Cup Crossover

Side View

Back View

Terminal Cup

ITEM PART NUMBER		General Dimensions Diagram		MATERIAL SPECS.	
NO.		REVISIONS		QTY.	
2x Peerless 5" Shielded Bass-HiD Drivers 855528		VES Components Dual Terminal Cup			
1x Peerless 1" Shielded Range Tweeter 855529		Code J708 B-VinylBz Amp Type			
UNLESS OTHERWISE SPECIFIED		DO NOT MANUALLY UPDATE.			
TOLERANCES ARE +/- 5mm					
		APPROVALS		DATE	
		DRAWN		13-01-2002	
		CHECKED		10-09-2003	
		MATERIAL		MDF Laminated/primed	
		FINISH		Veneer or Veneer	
		NEXT ASSY		USED ON	
		APPLICATION		Audiophile Satellite, Surround, Main	
		APPLICATION		Diagonal Type MTM Coastal Design	
		Corner-Slack Tweeter Flare Flare			
		SCALE: 1:1		SHEET 1 of 1	

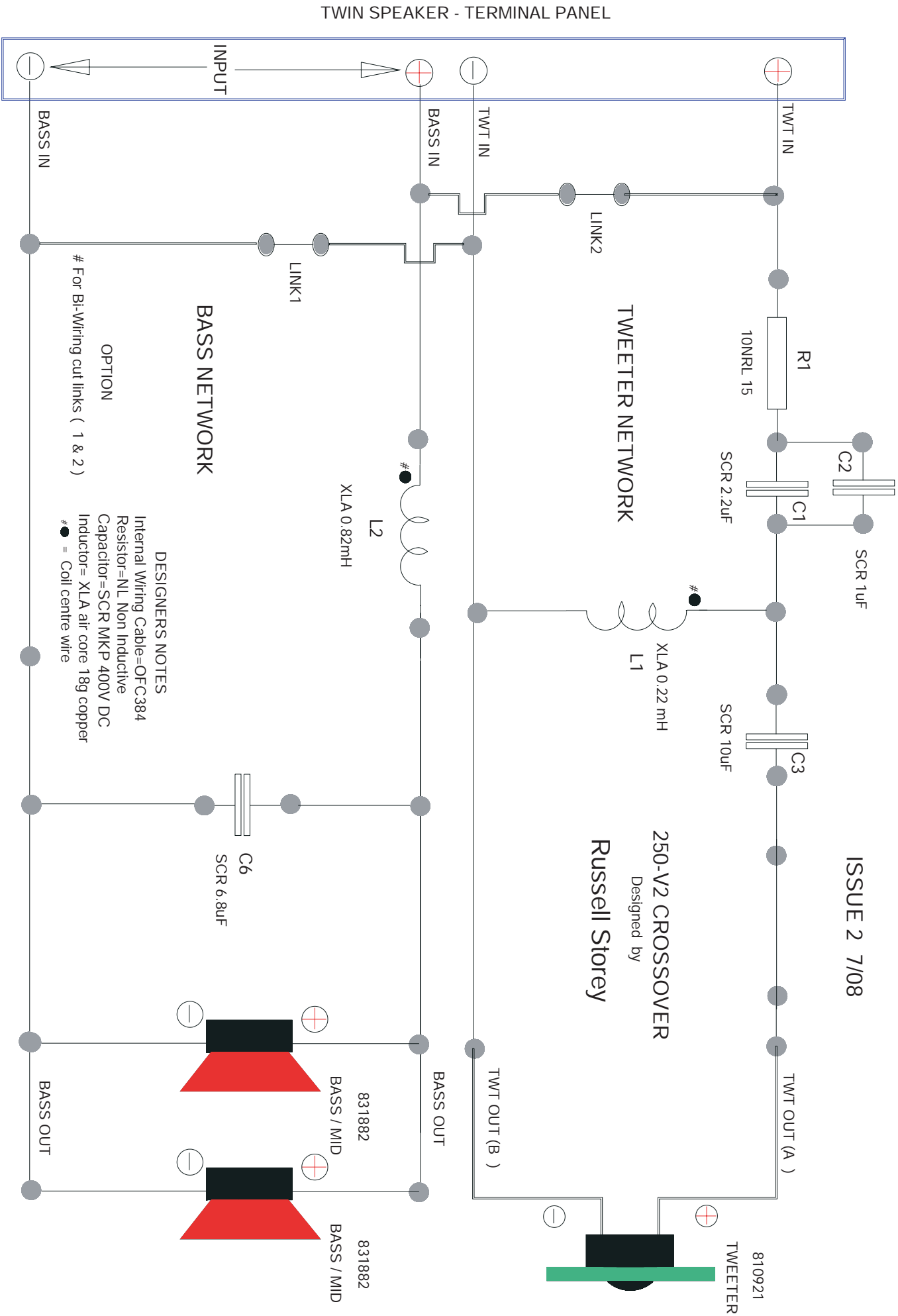
HDS250

AUDIOPHILE KIT SPEAKER

STONES SOUND STUDIO

STONES SOUND STUDIO

ISSUE 2 7/08



STONES SOUND STUDIO

HDS250-V2 – (Version2) SPEAKER KIT

SPECIFICATIONS

Issue 2 9/7/08

Frequency Range (on axis)	47Hz-25kHz		
Efficiency	91.5 dB	SPL @ 1m 2.83V rms +/- 1.5db	@ 22deg C averaged
Nominal Impedance	4ohms		
Recommended amplifier power			
Home Theatre Receiver	5 to 150 W	Unclipped program material	
Stereo and Valve	5 to 150 W	Unclipped program material	
Harmonic Distortion THD	+/- 0.3%	@ 1watt 2.83Vrms	1Khz
Relative Phase Coherence	<±30° degs 400Hz to 10Khz		
Frequency Response (off axis)	47Hz to 20Khz Horz / Vert +/- 45 30 degs		
Crossover (No Soldering required)	Printed Circuit Board : Fully finished includes all components, Velcro mounting tabs & wiring Wiring cable : Internal speaker cable high quality OFC 384 strand with push on connections Speaker terminals : 4mm twin gold plated binding post Filter : 2 way off set Bessel / Butterworth , linear phase Freq : 3.3Khz Order : 2nd Lp, 3rd Hp Components : High quality, Copper Air core inductors ,SCR 400V metalized MKP capacitors Non Inductive resistors Bi-wiring : Option provided		
Drivers			
Bass	2 x Peerless 831882	HDS Woofer	5" Nomex
Tweeter	1 x Peerless 810921	HDS Tweeter	1" (104mm)
Input Terminals	Gold plated 2way		
Cabinet	High quality enclosure supplied fully finished with, pre drilled screw holes, port, speaker mounting holes, grill panel , acoustic felt lined ,mounting screws Features : Low resonant chamber ,36mm thick front baffle , hardwood bracing ribs ,rounded edge speaker hole, rear port , low loss acoustic grill material, felt cup for tweeter magnet , acoustic port plug for wall or in cabinet mounting, Xpolar tweeter mounting option		
Finishes	Black wood grain Vinyl , Jarrah and Tasmanian Oak veneers		
Size			
Height	594 mm		
Width	180 mm		
Depth	305 mm		
Mass	15 kg ea		

HDS-250 MTM SPEAKERS

The HDS250 audiophile, high definition speaker is designed to faithfully reproduce both music and home cinema sound with crystal clear and pinpoint imaging. Best suited for use in small to medium sized rooms on speaker stands or a shelf. This exceptional speaker was developed to work in both the vertical and horizontal axis and uses shielded drivers for use near TVs, with home theater systems in any of the required positions (front/rear/center). A special version (HDS250C) is available for the center channel, developed with extra attention given to vocal clarity required by cinema. Two 5.5" Peerless HDS mid-woofers give articulate tight, fast bass, natural mids, an impressively wide sound stage with low distortion at even high volume levels. The purpose developed Peerless HDS tweeter is Time-Aligned (physically counter-sunk into the box) and Phase-aligned in an MTM coaxial design with a premium quality, professionally tuned box for incredible clarity, definition, accuracy and fantastic dynamic impact that rivals any speaker in this sized package. A truly audiophile speaker for music and/or home theater. Highly recommended to be used with our Peerless HDS255C center and XLS800 or XLS1000 subwoofers to complete the audio-visual experience.

danish sound technology

Australian
Made Boxes
With Danish
Speakers

Big sound from a compact box.
Fully Shielded for TV Home Theater.
Impressive Hi-Fi System Upgrade
Excellent for matching with our
8" or 12" Subwoofer Systems.
Speaker Stand or shelf mounted.
Rear vented. Tapered internal edges.
Time corrected, counter-sunk tweeter.
Coaxial MTM design. Curved grills.
Frequency 42Hz to 22KHz
H495 x W180 x D305mm
Power Amp 10 to 100 Watt
8ohm nominal
Sensitivity 92db


Peerless



STANDS NOT INCLUDED

**AUSTRALIAN
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WES COMPONENTS Aust Asia
Phone (02)9797-9866 Fax1 (02)9716-6015 Fax2 (02)9799-7051

HDS-250 MTM SPEAKERS

Peerless

danish sound technology



Big sound from a compact box.
Fully Shielded for TV Home Theater.
Use as Main, Center & Surround !
Impressive Hi-Fi System Upgrade.
Focussed clarity of time alignment.
Speaker Stand or shelf mounted.
Rear vented. Tapered internal edges.
Time corrected, counter-sunk tweeter.
Coaxial MTM design. Curved grills.
Cast alloy framed, 5 layered drivers,
the latest from Peerless Denmark.
Professionally designed and crafted.
Australian wood veneers.
Frequency 42Hz to 22KHz
H495 x W180 x D305mm
Power Amp 10 to 100 Watt
8ohm nominal. Sensitivity 92dB.
Excellent for matching with our
8" or 12" Subwoofer Systems.



HDS250C

HDS Home Theater

**Sold As Single Units
Requires 2 for Stereo**



**Only premium quality
components are used**

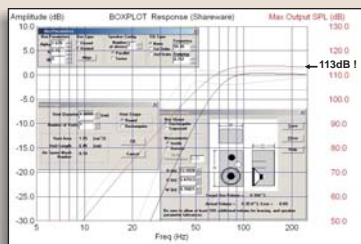
HDS250 COMPLETE KIT

Sold Individually, Singular,
Two required for stereo.
Requires Assembly.

KIT250TO	Tasmanian Oak
KIT250JA	Jarah
KIT250BV	Black Vinyl

Includes:

Built Cabinet with Speaker Grill
5" Mid-Woofers 850528 x2
1" Tweeter 810653
Crossover Kit (Requires Construction)
Assembly Hardware & Instructions

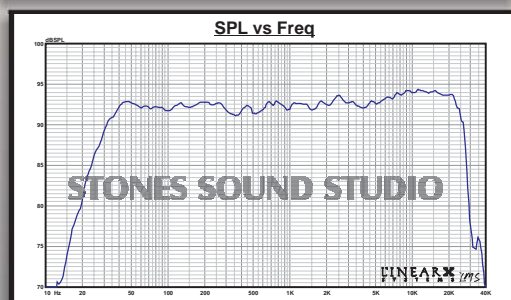
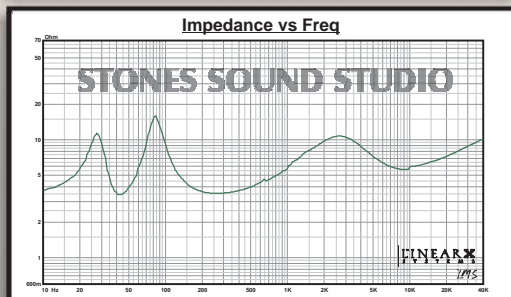
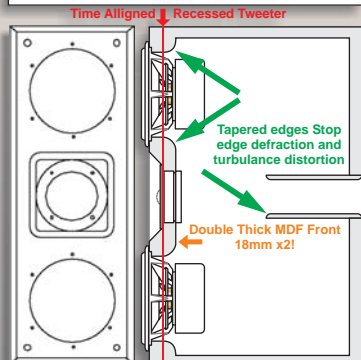


PEERLESS HDS/XLS SERIES OF SPEAKER SYSTEMS

Designed By Russell Storey of Stones Sound Studio.

Welcome to our new range of speaker systems available in economical kit form. Every aspect of the cabinet design has been customized to suit the Peerless drivers specifically with port and box volume tailored to maximize the performance of the HDS and XLS range of premium drivers.

A new improved tweeter has been developed in conjunction Peerless Denmark and Russell Storey, our audio consultant, to closely match the HDS series of mid-woofers. Cabinet development has been achieved using the latest in computer analysis software including LEAP and LMS along with the design experience of Stones Sound Studio who specialize in premium, exotic, custom speaker design. All cabinets are precision made from medium-density custom wood (MDF) with a choice of veneers and the best in computer controlled cabinet manufacturing processes. The Peerless HDS range of drivers and matching XLS range of subwoofers, offer incredible performance and value for money. When correctly developed with our custom designed cabinets, precision crossover matching and premium quality components, the result is a finished speaker that rivals the best musical audio available in the world, and also giving fantastic dynamics and realism to the new digital DVD home theater of today. Thank you and enjoy.



**AUSTRALIAN
DISTRIBUTOR**
sales@wes.net.au

WES COMPONENTS Aust Asia
Phone (02)9797-9866 Fax1 (02)9716-6015 Fax2 (02)9799-7051

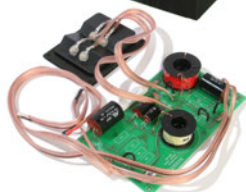
[INS250]

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danish sound technology

HDS250-V2

CONSTRUCTION DETAILS

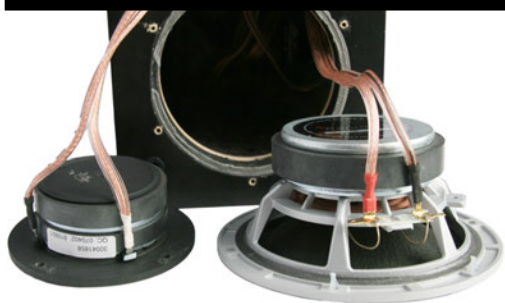


CHECK THE CONTENTS OF THE KIT:

- ☐ **Cabinet Assembled Complete.** All holes pre-drilled. Wadding material pre-attached to inside panels.
- ☐ **Speaker Grill.** Assembled with cloth attached.
- ☐ **Printed Circuit Board.** Fully assembled with all components & wiring to terminals & back-plate.
- ☐ **Speaker. Mid-Bass Woofer 5"** Peerless 831882 (2pcs)
- ☐ **Speaker. Tweeter Dome 1"** Peerless 810921 (1pcs)
- ☐ **Set of Screws** for attaching drivers and terminal socket. (20pcs)
- ☐ **Velcro Strips** for affixing the Circuit Board to the inside of the cabinet.



**CHECK CONDITION
OF ALL COMPONENTS
BEFORE COMMENCING
ASSEMBLY**



PREPARATIONS:

Take care as to not scratch the cabinet or puncture the drivers during assembly. Taking extra care would be well advised.

Place down a cloth or use the packaging box to work on.

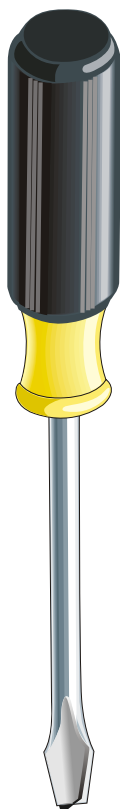
Check all components are present and in good condition.

Contact place of purchase if any problem or transit damage.

To assemble, you will require a **Philips head screwdriver**.

INSERT COMPONENTS:

- ☐ **The Crossover Assembly** comprises of the Circuit Board and attached wiring.
- ☐ **Set Crossover On-Board Links** - See the Crossover Setup on the next page. If unsure, the default is to leave all links on board as-is (connected).
- ☐ **Attach Velcro strips** to the underside of the Circuit Board towards each end.
- ☐ **Position the Cabinet** in it's normal upright position on a non-scratch surface.
- ☐ **Feed the Rear-Panel Input Terminal** thru the front hole for the 5" Woofer, then thru the felt and then rear hole so it is again, out side the box.
- ☐ **Screw the Rear Panel Input Terminal** into place with the screws provided. Correct orientation is for the terminals to be pointing in the upward direction.
- ☐ **Place the Cabinet** onto its back to continue with the crossover installation.
- ☐ **Peel backing paper off the Velcro Strips** to expose the adhesive for use.
- ☐ **Use a cloth** to ensure inside exposed surface is clean of dust & obstructions.
- ☐ **Insert Circuit Board** into the box and affix firmly to the wall of the cabinet.
- ☐ **Feed the speaker connection wires** out thru the appropriate speaker holes.
- ☐ **Connect the Woofer** by attaching the wire pair with **RED & BLACK** plugs.
- ☐ **Connect the Tweeter** by attaching the wire pair with **WHITE & BLACK** plugs.
- ☐ **Make sure connections are firm & sturdy.** Use pliers may be of assistance.
- ☐ **Insert the Drivers** with screws provided. You will find pre-drilled pilot holes.
- ☐ **Be Careful!** Not to slip with the screwdriver and puncture the speaker cone.
- ☐ **You are done!** Attach speaker grill and proceed to speaker setup *next page...*



[INS250]

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HDS250-V2

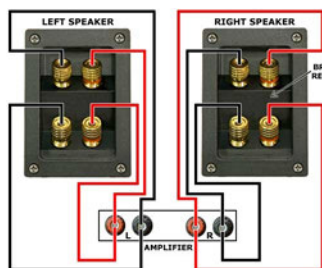
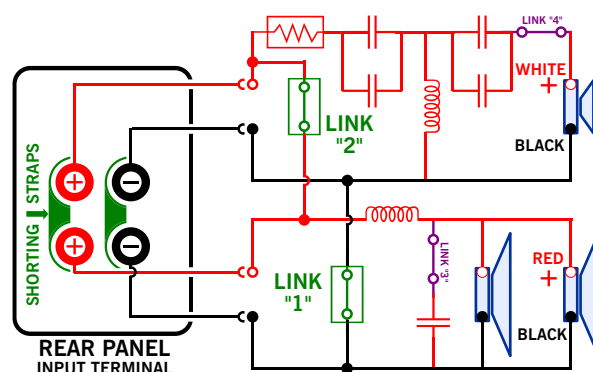
Page-2: Information.

CROSSOVER SETUP: *Do I Cut Any Links?*

☐ **NO!** In the default set-up there is no need to alter the crossover in any way. *Proceed with the installation...* These Links ensure correct and secure connection of BOTH drivers to the amp incase the SHORTING STRAPS become loose or are accidentally removed and/or lost.

☐ **BI-WIRE INSTALLATION.** Some audiophiles may wish to take advantage of this option. If you intend to Bi-Wire the speakers to the amplifier, remove the rear input terminals' **SHORTING STRAPS** and **CUT both LINK-1 and LINK-2.**

NOTE! DO NOT REMOVE LINK 3, DOUBLE-CHECK THIS.



Bi-Wire Connection

What Is Bi-Wiring and should I bother?

- ☐ The term Bi-Wire simply refers to the fact that you will be running two sets of loudspeaker cables from your amplifier to each of your speakers. Both the high and low circuits are now entirely separate all the way back to the amplifier.
- ☐ The idea with Bi-Wiring is to give a more direct path of each driver & filter circuit to the amplifier. This takes advantage of an amplifiers high damping factor thus reducing unwanted intermodulation distortion between the mid-woofer & tweeter.
- ☐ Some will argue that there is little to no advantage for the additional cabling cost. Positive results may also depend on the quality of the amplifier and cable used.

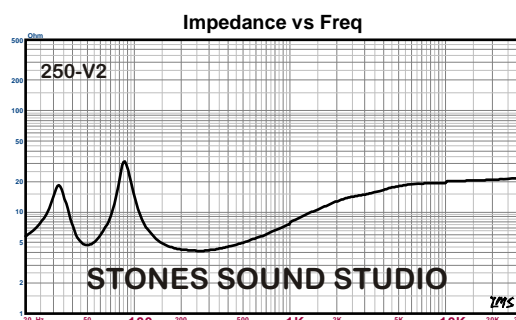
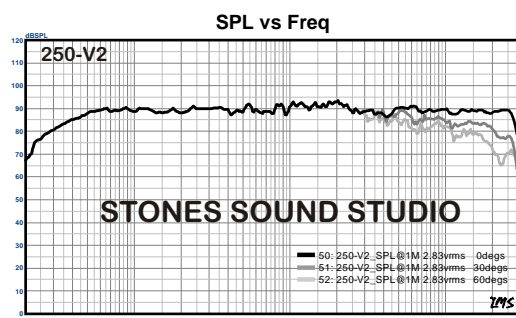
SPECIFICATIONS:

- | | |
|--|--|
| <input type="checkbox"/> FREQUENCY RANGE | 47Hz - 25KHz (On-Axis)
47Hz - 20KHz (+/- 30° Off Axis) |
| <input type="checkbox"/> EFFICIENCY MEASURED | 91.5dB (SPL @ 1M 2.83Vrms) |
| <input type="checkbox"/> NOMINAL IMPEDANCE | 4 ohms (3.6 ohms @ DC Minimum) |
| <input type="checkbox"/> RECOMMENDED AMP | 5 to 150W Unclipped Program Material |
| <input type="checkbox"/> MID-WOOFERS Peerless x2 | 831882 Peerless 5" Phase Plugged |
| <input type="checkbox"/> TWEETER Peerless x1 | 810921 HDS Soft-Dome 1" |
| <input type="checkbox"/> CROSSOVER | 3.3KHz, LP[12dB], HP[18dB]
Bessel / Butterworth, Linear Phase |
| <input type="checkbox"/> SIZE | 595x180x305mm 15Kg |

NB:

- ☐ Speakers are NOT Shielded. Unsuitable for use near CRT.

The Peerless HDS tweeter is Time-Aligned (physically counter-sunk into the box) and Phase-aligned in an MTM coaxial design with a premium quality, professionally tuned box for incredible clarity, definition, accuracy and fantastic dynamic impact that rivals any speaker in this sized package. A true audiophile speaker for music & home theater. Exclusive to WES. Design by Russell Storey of Stones Sound Studio.



HDS Exclusive 5¼" Midwoofer



Type Number: 831882

Features:

This High Definition Sound (HDS) line of products push the performance limits of midbass audio transducers in a range of sizes - from the standard 205mm (8-inch) model, down to the very small 106mm (4-inch) model. Feature-rich and utilizing copper for the lowest distortion possible, the high-end HDS Exclusive Series takes maximum advantage of over 80 years of R&D experience to help systems designers build the world's best audio products.



Driver Highlights: Nomex diaphragm, 26 mm coil, AL, CU, Phaseplug

[Go to Architecture Notes](#)

Specs:

Electrical Data

Nominal impedance	Zn	8	ohm
Minimum impedance	Zmin	6.7	ohm
Maximum impedance	Zo	58.3	ohm
DC resistance	Re	5.9	ohm
Voice coil inductance	Le	0.8	mH

T-S Parameters

Resonance Frequency	fs	64.5	Hz
Mechanical Q factor	Qms	3.85	
Electrical Q factor	Qes	0.43	
Total Q factor	Qts	0.39	
Ratio fs/Qts	F	165	
Force factor	Bl	7	Tm
Mechanical resistance	Rms	0.93	Kg/s
Moving mass	Mms	8.8	g
Suspension compliance	Cms	0.69	mm/N
Effective cone diameter	D	10.5	cm
Effective piston area	Sd	87	cm ²
Equivalent volume	Vas	7.2	ltrs
Sensitivity		88.2	dB
Ratio BL/√(Re)		2.9	

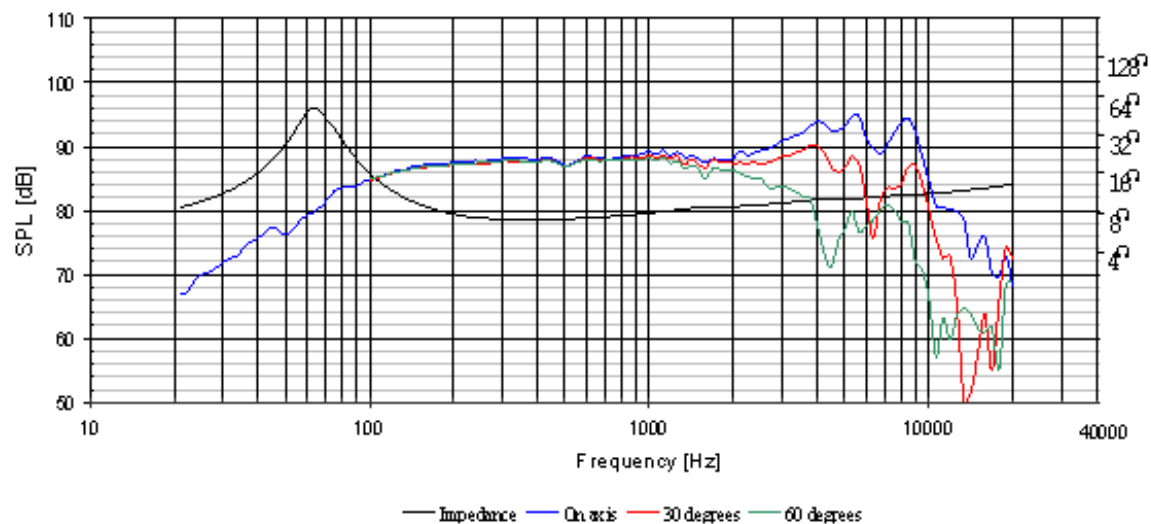
Power handling

100h RMS noise test (IEC)	--	W
Long-term Max System Power (IEC)	--	W
Max linear SPL (rms) @ power	--	dB/W
Short Term Max power	--	W

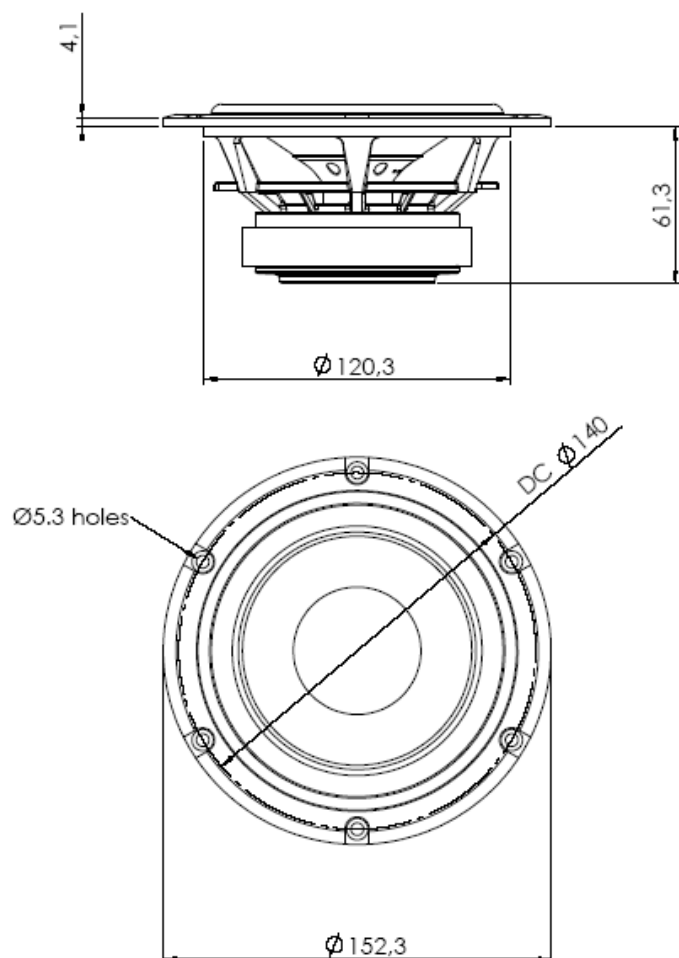
Voice Coil and Magnet Parameters

Voice coil diameter	26	mm
Voice coil height	13	mm
Voice coil layers	2	
Height of the gap	6	mm
Linear excursion +/-	3.5	mm
Max mech. excursion +/-	--	mm
Flux density of gap	--	mWb
Total useful flux	0.89	mWb
Diameter of magnet	90	mm
Height of magnet	15	mm
Weight of magnet	0.4	Kg

Frequency:



Mechanical Dimensions:



Type Number: P810921

Features:

The HDS tweeter builds on long history of danish tweeter design by optimizing several key design elements for pure, clean music reproduction. The HDS tweeter uses a very light, low mass soft dome with high internal damping, and a highly-optimized, low-compression magnet system, which was designed especially for the low mass dome. The result is a driver that has both good sensitivity and an impressive range into the lower frequencies. The low mass dome, coupled with a fully vented motor system provides non-compressed sound reproduction over the entire frequency response. This combination allows the HDS tweeter to be used in systems with lower cross-over points than is recommended for most normal tweeters, making this product a powerful tool for any acoustic designer in the process of tuning a system. The HDS tweeter is ideal for use in applications including home entertainment, studio monitors, and general hi-fi systems.

Driver Highlights: 104 DT 26 72 SF HDS DM 8/6 OHM



Specs:

Electrical Data

Nominal impedance	Zn	8	ohm
Minimum impedance	Zmin	6,6 / 58	ohm
Maximum impedance	Zo	11	ohm
DC resistance	Re	5,6	ohm
Voice coil inductance	Le	0,0	mH

T-S Parameters

Resonance Frequency	fs	700	Hz
Mechanical Q factor	Qms	-	
Electrical Q factor	Qes	-	
Total Q factor	Qts	-	
Force factor	Bl	-	Tm
Mechanical resistance	Rms	-	Kg/s
Moving mass	Mms	-	g
Suspension compliance	Cms	-	mm/N
Effective cone diameter	D		cm
Effective piston area	Sd	7,00	cm ²
Equivalent volume	Vas	-	ltrs
Sensitivity (2.83V/1m)		91,26	dB

Power Handling

100h RMS noise test (IEC)	-	W
Long-term Max Power (IEC18.3)	-	W
Max linear SPL (rms) @ power		dB/W
Short-term Max Power (IEC18.2)		W

Voice Coil and Magnet Parametres

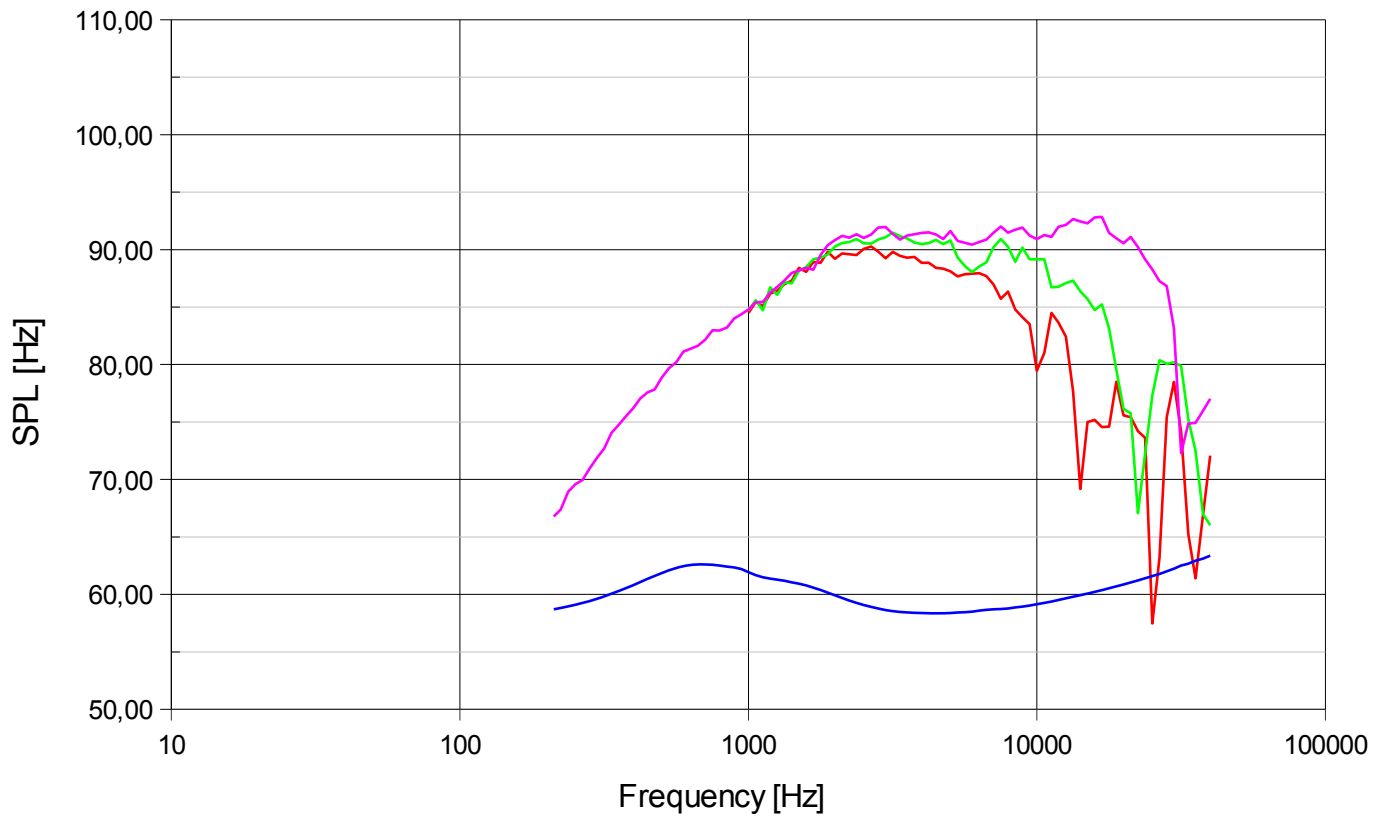
Voice coil diameter	26,0	mm
Voice coil height	1,5	mm
Voice coil layers	2,0	
Height of gap	2,5	mm
Linear excursion +/-	0,5	mm
Max mech. Excursion +/-	-	mm
Flux density of gap		mWb
Total useful flux		mWb
Diameter of magnet	72,0	mm
Height of magnet	22,0	mm
Weight of magnet	-	Kg
Unit net weight	-	Kg

Notes:

IEC Specs refer to IEC 60268,5 third sdition.

All Scan Speak products are RoHS compliant

Frequency:



Mechanical Dimentions:

