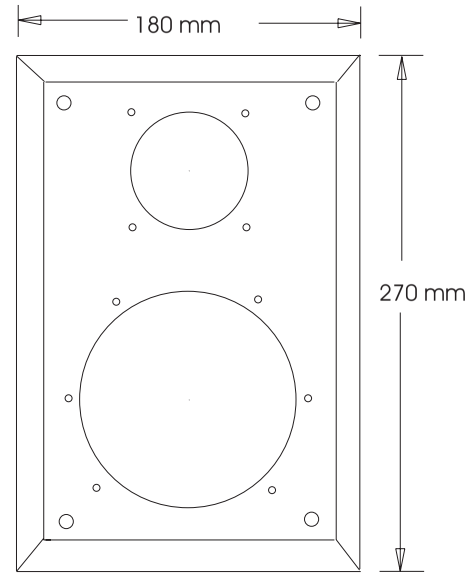
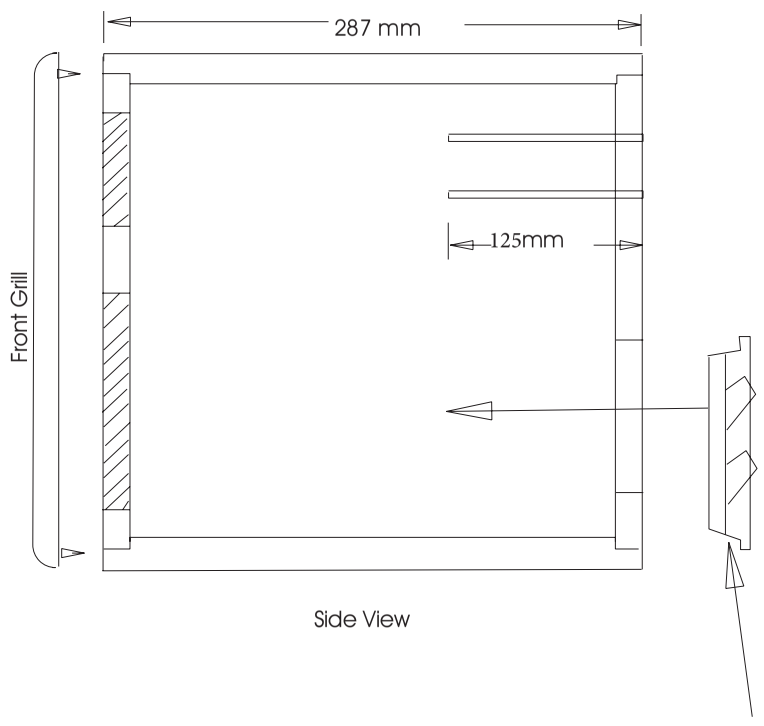
Stones Sound Studio | High Definition Series

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

AUDIOPHILE MONITOR 2-WAY
SATELLITE & SURROUND SPEAKER

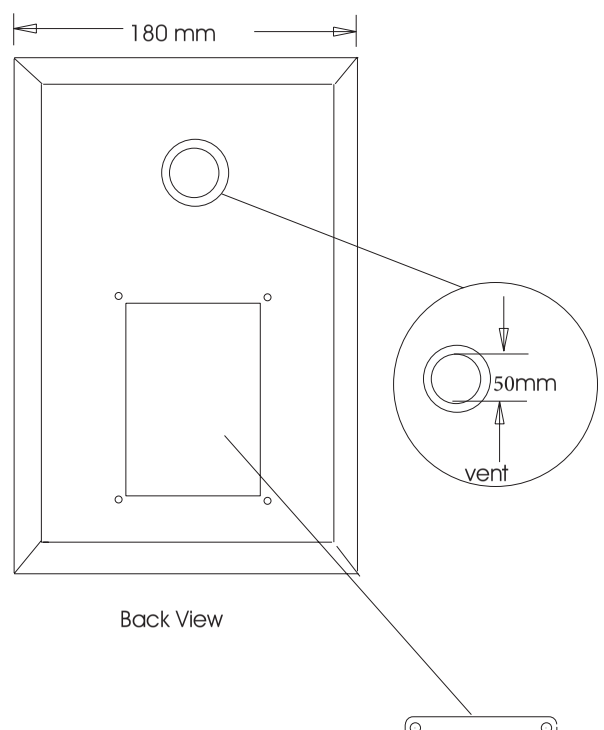


Front View

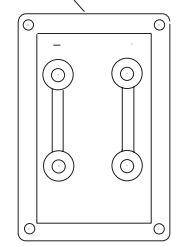


Side View

Terminal Cup Crossover



Back View



Terminal Cup

Construction Notes

Cabinet Thickness varies with thickness of chosen material

Internal Dimensions W x D X H mm (146 x 253 x 236)

Top /bottom / Left/Right side panels mitre joints

Front and rear baffles rebated in 17mm

Outside Dimension = Inside Dim + 17mm raw MDF

Peerless 5" Hole Cut out = 120 mm

Vent ID =50 mm

Vent length = 125 mm

ITEM NO.	PART NUMBER	General Dimensions Diagram	MATERIAL SPECS.	QTY.
	R150KS			

1x Peerless 5" Shielded Bass-Mid Driver 850528
1x Peerless 1" Shielded Fabric Tweeter 810653

WES Components Dual Terminal Cup
Code J708 Bi-Wire/Bi-Amp Type

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETRES
TOLERANCES ARE +/- 5mm

CAD DRAWING, DO NOT MANUALLY UPDATE.

APPROVALS	DATE
DRAWN Russell Storey	13-01-2002
CHECKED Jim Ryan	10-09-2003

MATERIAL
High Density Particle Board (MDF) Laminated/Painted

FINISH
Vinyl or Wood Veneer

NEXT ASSY.	USED ON

APPLICATION
Satellite, Surround, Mains

STONES SOUND STUDIO

SATELITE KIT SPEAKER

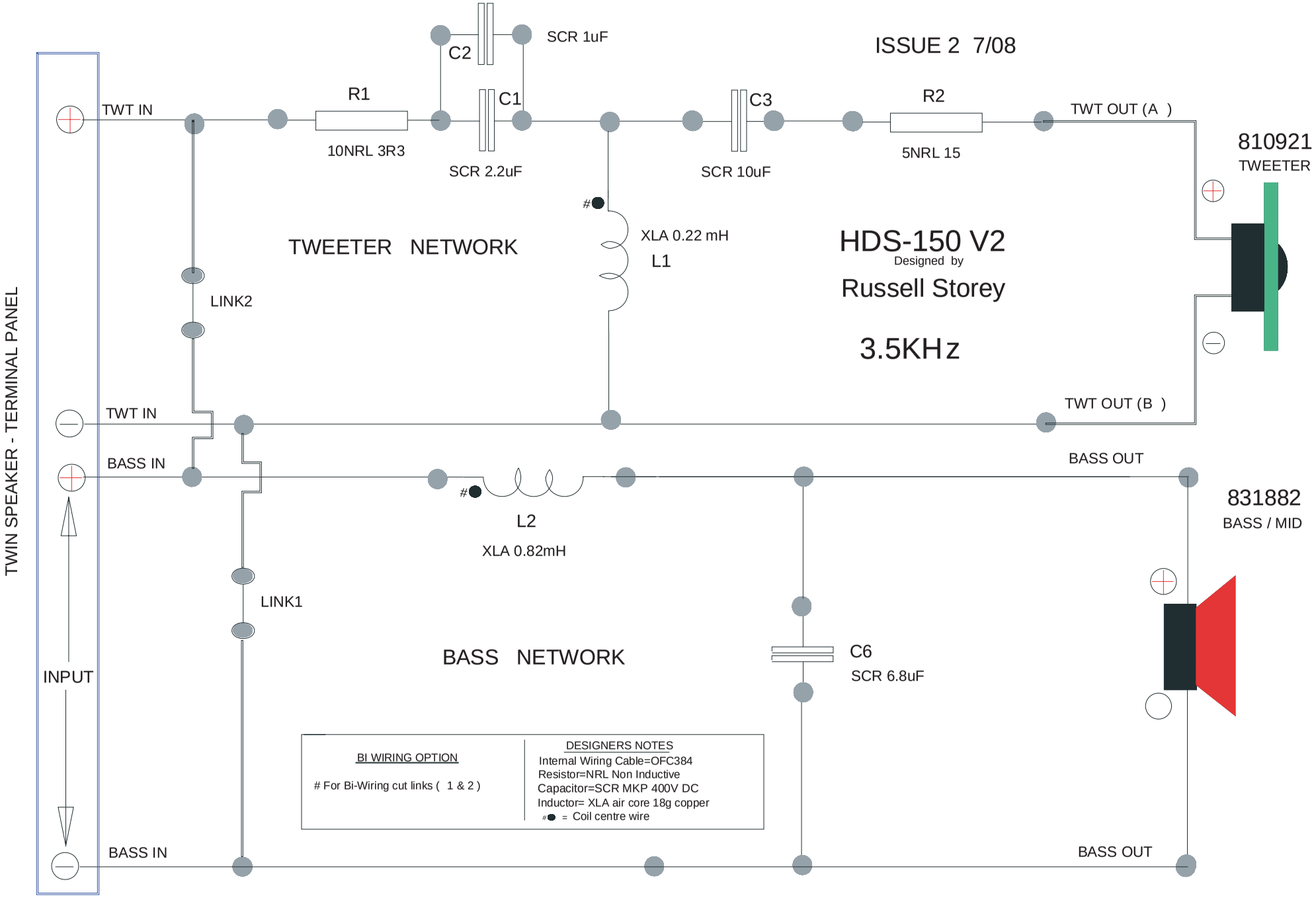
HDS150

SIZE	DWG. NO.	REV.
A3	Leap 0003	

SCALE XX:XX | CAD FILE: HDS150_INS.cdr | SHEET 1 of 1

Designed by Russell Storey - Stones Sound Studio - www.wes.net.au

STONES SOUND STUDIO



STONES SOUND STUDIO

HDS150-V2 – (Version2) SPEAKER KIT

SPECIFICATIONS Issue 2 9/7/08

Frequency Range (on axis)	49 Hz-25kHz
Efficiency	87.5 dB SPL @ 1m 2.83V rms +/- 1.5db @ 22degs C averaged
Nominal Impedance	8ohms
Recommended amplifier power Home Theatre Receiver Stereo and Valve	 5 to 120 W Unclipped program material 5 to 120W Unclipped program material
Harmonic Distortion THD	+- 0.3% @ 1watt 2.83Vrms 1Khz
Relative Phase Coherence	<±30° degs 400Hz to 10Khz
Frequency Response (off axis)	49Hz to 20Khz Horz / Vert +/- 55 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** : 3.5Khz **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 Tweeter	 1 x Peerless 831882 HDS Woofer 5" Nomex 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 Width Depth	 270 mm 180 mm 287 mm
Mass	7 kg ea

HDS-150 SATELLITES

danish sound technology

The Peerless HDS150 audiophile high definition satellite speaker is a very capable and compact unit designed to reproduce both music and home theater in small to medium rooms. Quality made, 18mm thick MDF construction, rear firing tuning port, curve edged front grill fascia, and other design detailed specifics, gives you fantastic performance from a compact system. Computers or video, music or DVD, it is all possible as the HDS150 uses shielded, digital ready, *top-of-the-line,* Danish made drivers from Peerless. This exceptional speaker is designed to make positioning easy and convenient, with Home Theater, the HDS150 can be used in any of the positions (front/rear/centre), giving a fast dynamic sound stage. Especially ideal as rear monitors for larger THX type set-ups. For music, it is an excellent up-grade to any Midi or HiFi system, improving your sound with the latest in technology. We highly recommend the HDS150s' be used as satellites in conjunction with our XLS800V or XLS1000 subwoofers. You will be impressed by the full, rich sound from these compact monitors, suitable for a large range of applications.

Fully Shielded for TV or PC.
Big sound, Compact box.
HiFi Midi-System Speaker Upgrade
Satellite System Matched with our 8" or 12" Subwoofer Systems.
Surround Speakers for DVD.

Frequency 50Hz to 22KHz
H 270 x W 182 x D 286mm
Recommended Amplifier Power 10Watt to 70Watt
8ohm nominal
Sensitivity 88db

Speaker Stand or Shelf mounted.
Rear vented.
Attractive, Compact, Practical.

Australian Made Boxes With Danish Speakers

Peerless

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HDS-150 SATELLITES

danish sound technology

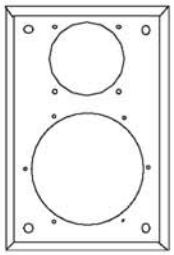
Peerless

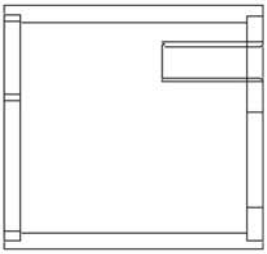
Satellite speaker shielded
Stand or shelf mounting
Recommended Amplifier
Power = 10Watt to 70Watt
8ohm nominal
Sensitivity 88db
Rear vented
Frequency 50hz to 22khz
H270 x W182 x D286mm
5.5" Peerless HDS Mid-Woofer
1" HDS Soft Dome Tweeter
Choice of wood or vinyl finishes.
Premium quality grill, curve edges for minimal edge diffraction.
Midi-System Speaker Upgrade
Satellite System matched with our 8" or 12" Subwoofer Systems.
Surround Speakers for DVD.

HDS150 COMPLETE KIT
Sold Individually, Singular,
Two required for stereo.
Requires Assembly.

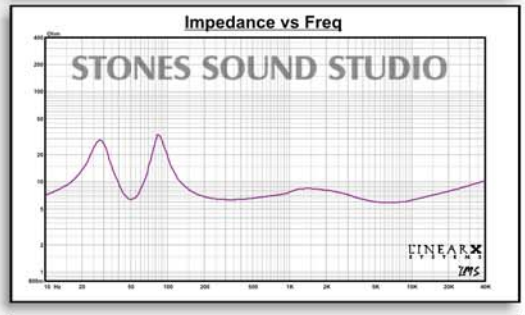
KIT150TO	Tasmanian Oak
KIT150JA	Jarah
KIT150BV	Black Vinyl

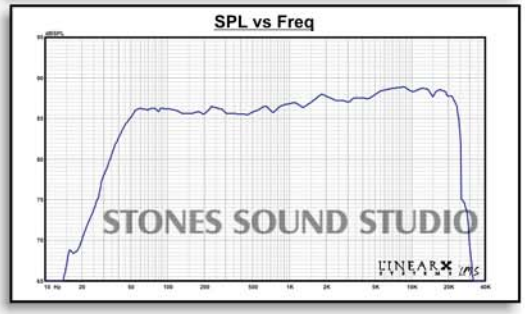
Includes:
Built Cabinet with Speaker Grill
5" Mid-Woofer 850528
1" Tweeter 810653
Crossover Kit (Requires Construction)
Assembly Hardware
& Instructions





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 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.





WES Components: 90 Paramatta Rd Summerhill 2130. PH:(02)9797-9866 sales@wes.net.au

[INS150] www.d-s-t.com.au

danish sound technology

HDS150-V2

CONSTRUCTION INSTRUCTIONS

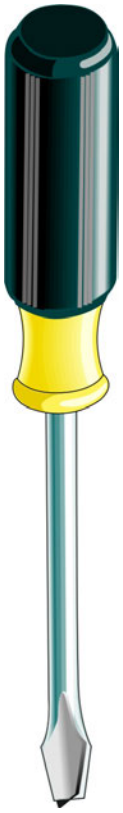
CHECK THE CONTENTS OF THE KIT (ea.):

- ❑ **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"** 831882 HDS 5" *Phase Plug*
- ❑ **Speaker. Tweeter Dome 1"** 810921 HDS Soft-Dome 1"
- ❑ **Set of Screws** for attaching drivers and terminal socket. (14pcs)
- ❑ **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 to 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...*

WES Components: 90 Paramatta Rd Summerhill 2130. PH:(02)9797-9866 sales@wes.net.au

[INS150] www.d-s-t.com.au

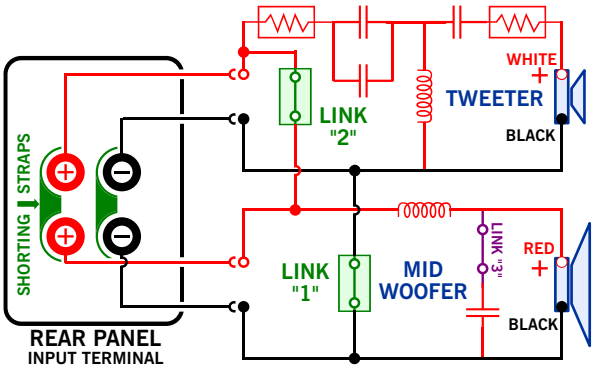
danish sound technology

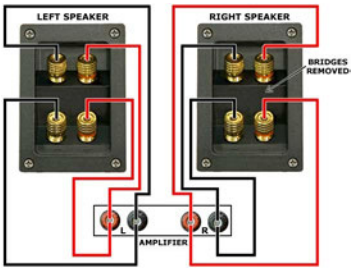
HDS150-V2

Page 2

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 accidently 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.***





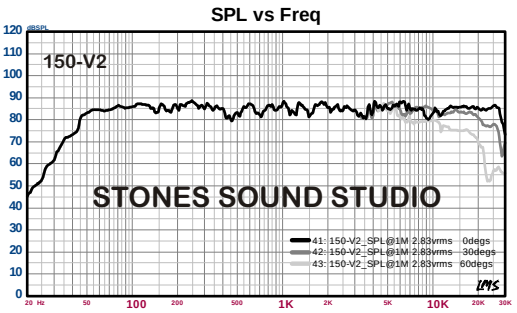
Bi-Wire Connection

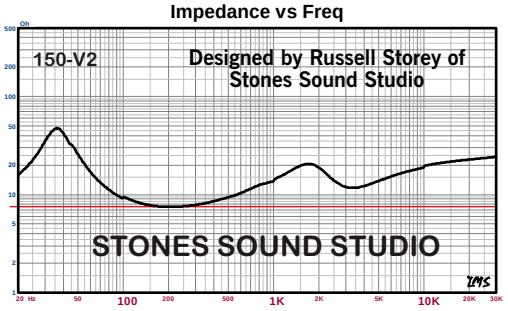
What Is Bi-Wiring and should I bother?

- ❑ 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:

❑ FREQUENCY RANGE	49Hz - 25KHz (On-Axis) 49Hz - 20KHz (+/- 30° Off Axis)
❑ EFFICIENCY MEASURED	87.5dB (SPL @ 1M 2.83Vrms)
❑ NOMINAL IMPEDANCE	8 ohms (6.1 ohms @ DC *Minimum*)
❑ RECOMMENDED AMP	5 to 120W *Unclipped Program Material*
❑ MID-WOOFER Peerless	831882 HDS 5" *Phase Plug*
❑ TWEETER Peerless	810921 HDS Soft-Dome 1"
❑ CROSSOVER	3.5KHz, LP[12dB], HP[18dB] Bessel / Butterworth, Linear Phase
❑ SIZE	270x180x287mm 7Kg





NB:

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

HDS150 high definition satellite speaker is a very capable and compact unit designed to reproduce both music and home theater in small to medium rooms. Quality made, 18mm thick MDF construction, rear firing tuning port, curve edged front grill fascia, and other design detailed specifics, gives you fantastic performance from a compact system. **Exclusive to WES. Design by Russell Storey of Stones Sound Studio.**

TYMPHANY

HDS Exclusive 5¼" Midwoofer

Peerless

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.

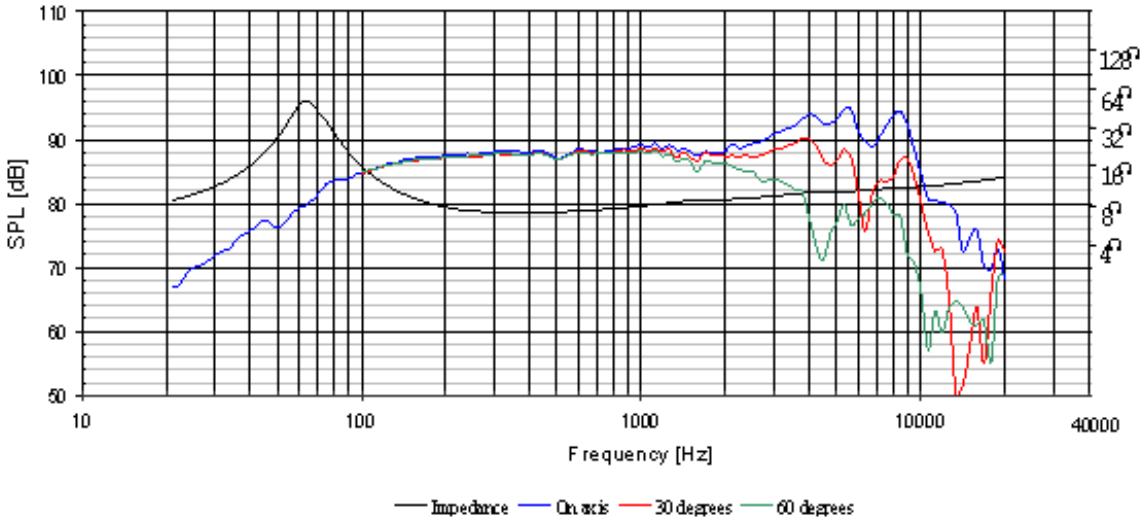
Driver Highlights: Nomex diaphragm, 26 mm coil, AL, CU, Phaseplug

Specs:

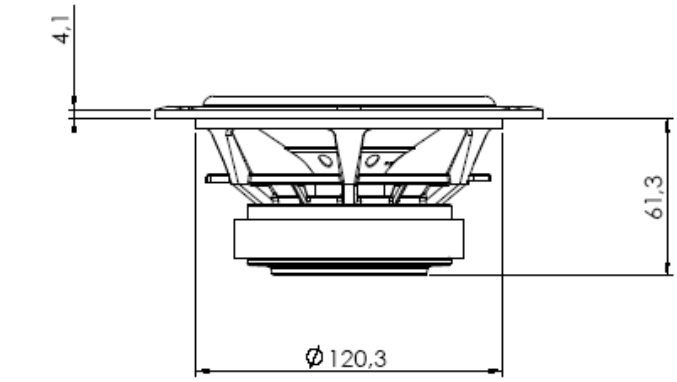
Electrical Data			
Nominal impedance	Zn	8	ohm
Minimum impedance	Zmin	6.7	ohm
Maximum impedance	Zo	58.3	ohm
DC resistance	Re	5.9	ohm
Voice coil inductance	Le	0.8	mH
T-S Parameters			
Resonance Frequency	fs	64.5	Hz
Mechanical Q factor	Qms	3.85	
Electrical Q factor	Qes	0.43	
Total Q factor	Qts	0.39	
Ratio 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	

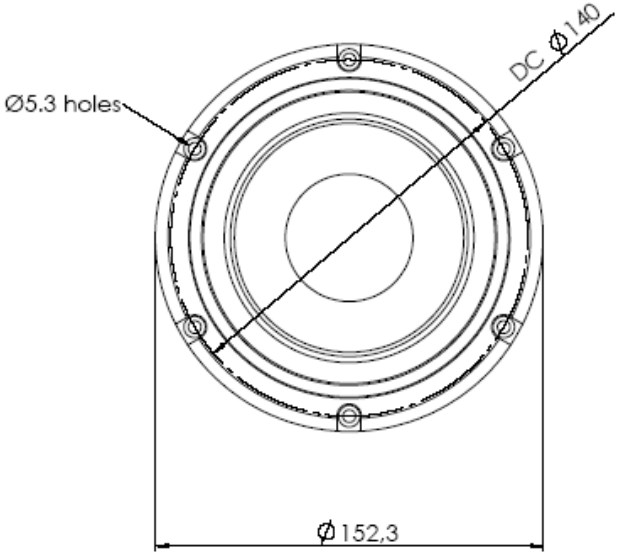
Power handling		
100h RMS noise test (IEC)	--	W
Long-term Max System Power (IEC)	--	W
Max linear SPL (rms) @ power	--	dB/W
Short Term Max power	--	W
Voice Coil and Magnet Parameters		
Voice coil diameter	26	mm
Voice coil height	13	mm
Voice coil layers	2	
Height of the gap	6	mm
Linear excursion +/-	3.5	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:





DISCOVERY

1" Tweeter

SCANSPEAK

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	cm2
Equivalent volume	Vas	-	ltrs
Sensitivity (2.83V/1m)		91,26	dB

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

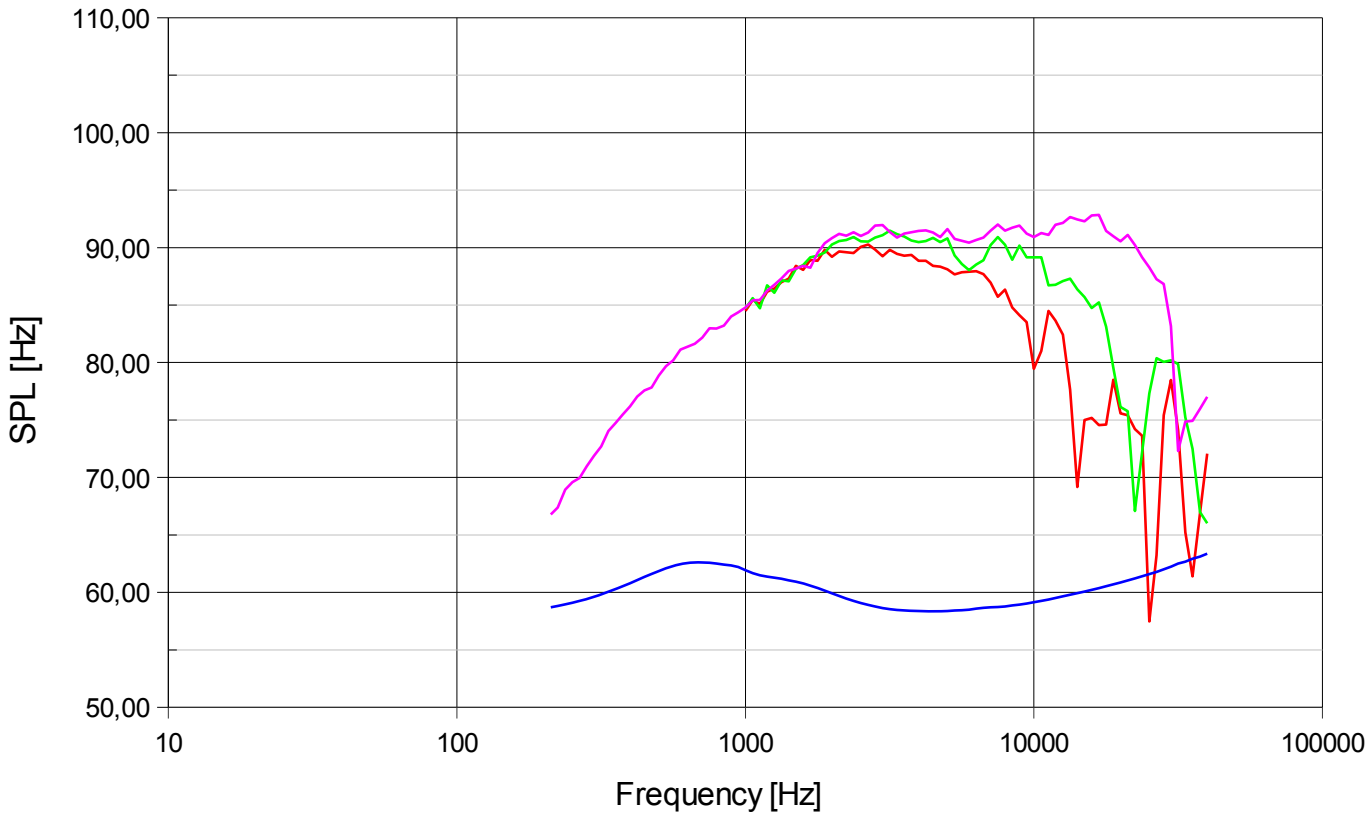
Voice Coil and Magnet Parametres		
Voice coil diameter	26,0	mm
Voice coil height	1,5	mm
Voice coil layers	2,0	
Height of gap	2,5	mm
Linear excursion +/-	0,5	mm
Max mech. Excursion +/-	-	mm
Flux density of gap		mWb
Total useful flux		mWb
Diameter of magnet	72,0	mm
Height of magnet	22,0	mm
Weight of magnet	-	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: