

Bowers & Wilkins

Hub Service Technical Manual

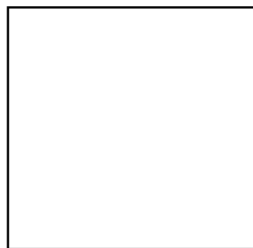
704 Series 2



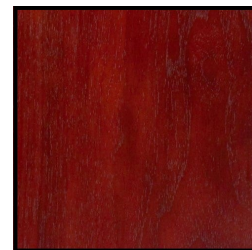
Gloss Black



Satin White



Rosenut



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Revision History

Date	Revision	By	Details
21/05/2018	1	JP	Creation

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Introduction

Please read this manual carefully before commencing servicing!
Only qualified and authorised technicians should attempt to service this product.

Antistatic Precautions (ESD)

Electronic devices and components are extremely sensitive to electrostatics (ESD). Always observe ESD precautions when handling electronic modules or PCBs. Never exchange boards with a different revision number, unless authorised by B&W



Whenever you see this warning, always take electrostatic precautions.

Chemicals and Solvents (COSHH)

Solder's, fluxes and cleaning agents are used widely in the servicing of electronic products. Such substances are hazardous to health; therefore always take precautions to protect yourself and others when using any hazardous substance. Protective clothing and equipment if provided should be worn. If in doubt refer to the COSHH.



Be aware whenever you see this warning.

Electricity

Electricity is the most common hazard that will be confronted when building and testing product. Always take precautions when working on live equipment or with any test equipment that uses electricity. Note: Do not wear an ESD wrist strap when working on live electricity.



Be aware whenever you see this warning.

Personal Protection Equipment (PPE)

PPE is equipment that will protect the user against health or safety at work. It can include items such as safety helmets and hard hats, gloves, eye protection, high visibility clothing, safety footwear and safety harnesses.



**Health & Safety
Executive**

Be aware whenever you see this warning.

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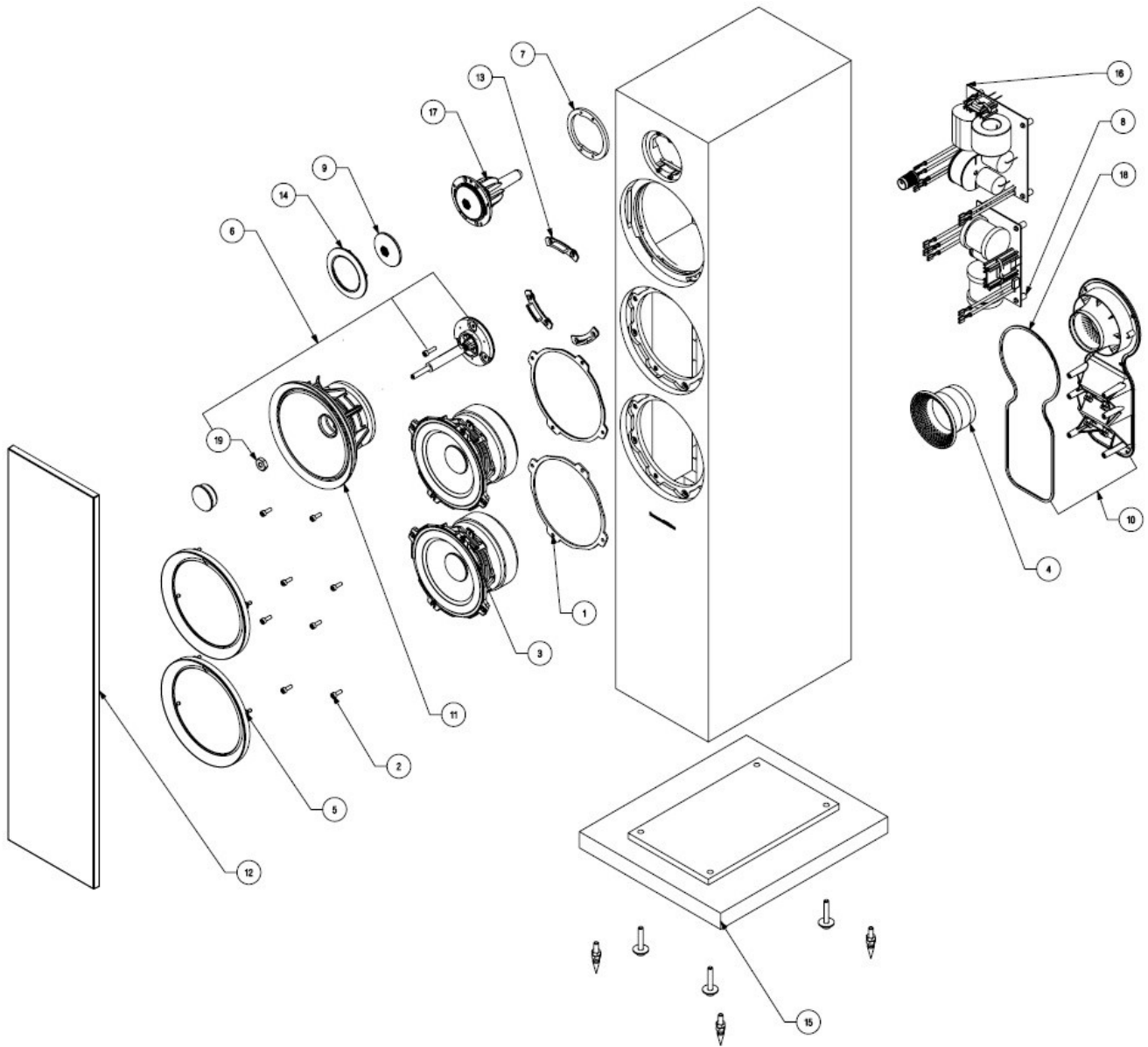
704 S2 Series Technical Sheet

Technical features	Decoupled Carbon Dome tweeter Continuum cone FST midrange Decoupled midrange Aerofoil profile bass cones Flowport™
Description	3-way vented-box system
Drive units	1x ø25mm (1 in) Decoupled Carbon Dome high-frequency 1x ø130mm (5 in) Continuum cone FST midrange 2x ø130mm (5 in) Aerofoil profile bass
Frequency range	-6dB at 43Hz and 33kHz
Frequency response	48Hz - 28kHz ±3dB
Sensitivity	88dB spl (2.83Vrms, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1% 100Hz - 22kHz <0.5% 300Hz - 20kHz
Nominal impedance	8Ω (minimum 3.1Ω)
Recommended amplifier power	30W - 150W into 8Ω on unclipped programme
Dimensions	Height: 925mm (36.4 in) cabinet only 959mm (37.8 in) including plinth Width: 165mm (6.5 in) cabinet only 252mm (9.9 in) including plinth Depth: 255mm (10in) cabinet only 277mm (10.9 in) inc. grille and terminals 298mm (11.7 in) inc
Net weight	18.5kg (41 lb)
Finishes Cabinet:	Rosenut Gloss Black Satin White
Grille:	Black Grey (Satin White only)

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Exploded Diagram & Parts List



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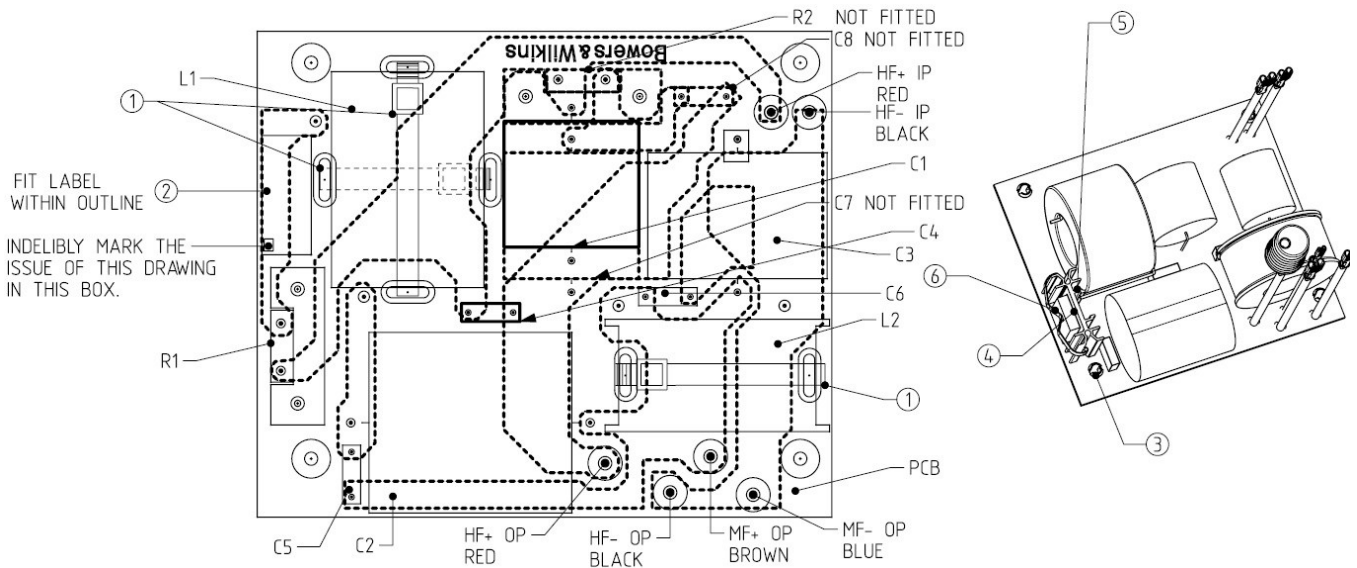
Parts List

ITEM	PART NAME	DESCRIPTION	PART # BLACK	PART # WHITE	QTY
1	NXM10000056703000	Gasket 5" Chassis PM/CM/68x S2	GG12742	GG12742	2
2	NXM10000067381000	Scr M4x12 Cap Hd CR3 Black	HH35904	HH35904	8
3	NXM10000099337000	Bass Unit 5" 704 S2	LF26824	LF26824	2
4	NXM10000056095000	Port Tube Inc Flare 50x25mm Abs Black	PP17601	PP17601	1
5	NXM10000106827000	T/Ring Assy LF 700 S2 5" Dark	RR35211	RR35289	2
6	NXM10000104602000	Midrange Fixing Assy 702/704 S2	ZZ34142	ZZ34142	1
7	NXM10000064490000	Tweeter Gasket	GG14184	GG14184	1
8	NXM10000108617000	X-Over LF 704 S2	XX16950	XX16950	1
9	NXM10000105282000	Grille Mesh 700 S2 HF (I/B) Black	GG16012	GG16012	1
10	NXM10000065708000	Term Tray/ Port 50mm Nickel 6 Mntg Studs	ZT26670	ZT26670	1
11	NXM10000099341000	Mid 5" Dark Trim 704 S2	LF27170	LF27189	1
12	NXM10000067048000	Grille CM8 S1/2, 704 S2 Black	ZG02899	N/A	1
13	NXM10000108581000	Decoupler MF 5" - Front—700 S2	MM14613	MM14613	3
14	NXM1000010682000	Trim Assy HF 700 S2 (Baffle) Dark	RR35440	RR35432	1
15	NXM10000067015000	CM8 S2 / 704 S2 Plinth Assy Black	ZZ28665	ZZ28673	1
16	NXM10000108616000	X-Over HF/ MF 704 S2	XX16969	XX16969	1
17	NXM10000098329000	Tweeter Baffle Mounted 700 S2	HF01511	HF01511	1
18	NXM10000058250000	Gasket Term Tray 1mm Polyethylene S/A	GG06491	GG06491	1
19	NXM10000070716000	MF Centraliser Nut	HH36463	HH36463	1

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HF/ MF Crossover Diagram & Parts List

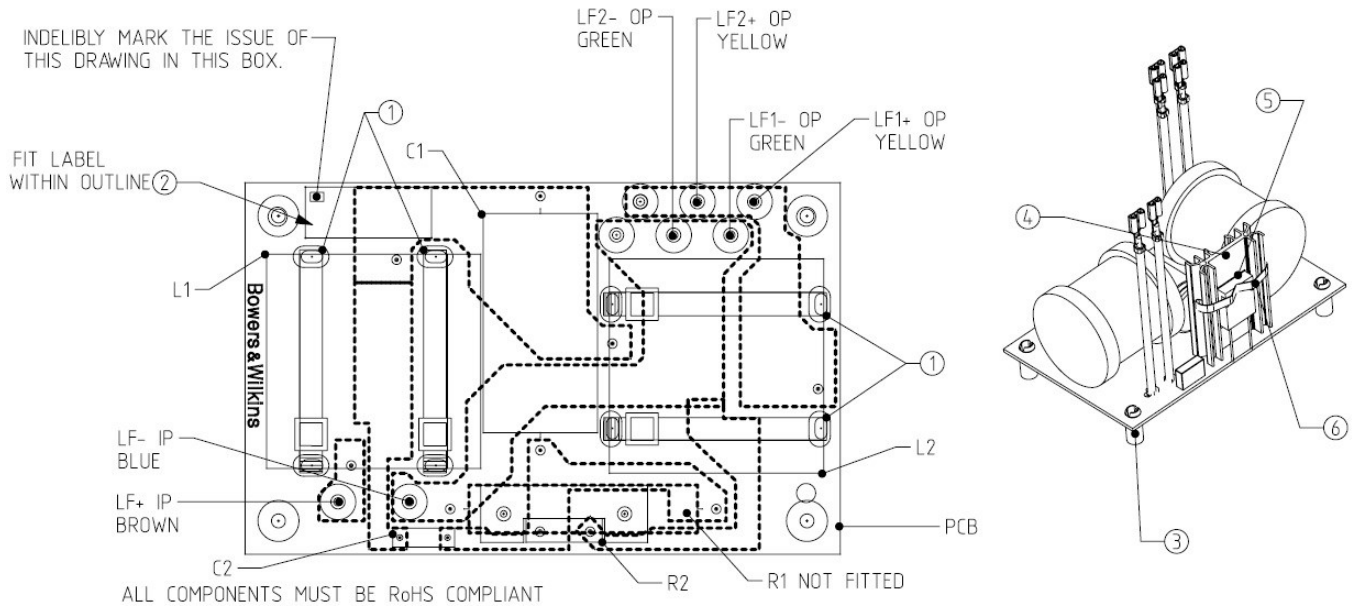


ITEM	DRAWING NUMBER	DESCRIPTION	PART #	QTY
ASSY	NXD10000108616	X-Over CM8 HF/ MF S3	XX16969	1
PCB	NXD10000110813	PCB 3 Way—HF/ MF S3	CC72133	1
HAR	NXD10000065997	CM8 S2 HF/ MF Harness Assembly	ZX10146	1
C1		Cap5.6 M-Cap 450VDC EVO Silver Gold Oil	CC64653	1
C2		Cap 47uF PP 250V Carli	CC58164	1
C3		Cap 10.0 M-Cap 450VDC EVO Silver Gold Oil	CC64661	1
C4		Cap 0.01uF TDK 630V RAD EPCOS 10mm Pitch	CC87165	1
C5		Cap 0.01uF TDK 630V RAD EPCOS 10mm Pitch	CC87165	1
C6		Cap 0.01uF TDK 630V RAD EPCOS 10mm Pitch	CC87165	1
L1		Ind 0.75mH 1.2Wire 24 ID 500D 33L Pacific	ZL11428	1
L2		Ind0.7mH 1.2mm AC Bobbin Pacific	ZL11215	1
R1		Res 1R5 1% Powertron	RR34304	1
1		White Cable Ties 530mm x 9.0mm	CC14540	1
2		Label CM8S3 HF/ MF Crossover	LL14222	3
3		Spacer. SRS8-8-01	HH31619	1
4		Heat Sink Ali ""Type B"" - 50.4mm Long	HH40363	4
5		Termal Pad Q Pad II—102 (Bergquist)	HH31039	1
6		Heat Sink Clip 2004 800 Series X-Overs	PP19695	1
7		Adhesive Hot Melt 988A 11mm OD	AA14494	

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LF Crossover Diagram & Parts List



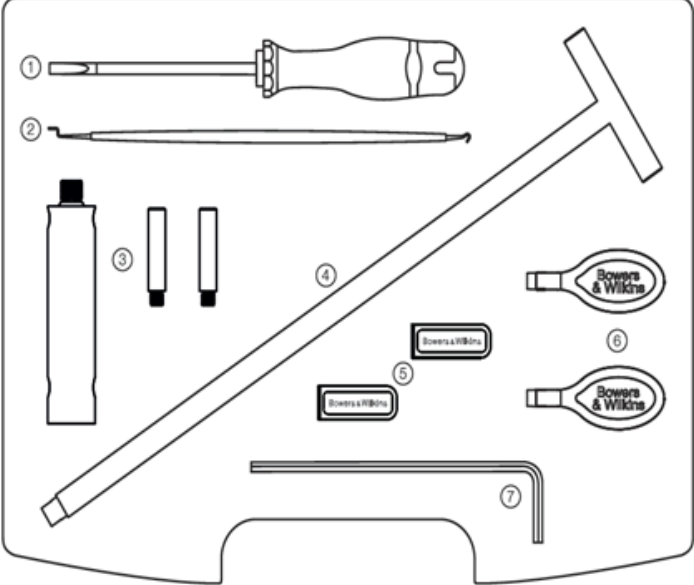


ITEM	DRAWING NUMBER	DESCRIPTION	PART #	QTY
ASSY	NXD10000108617	X-Over CM8 LF S3	XX16950	1
PCB	NXD10000108566	PCB 3 Way—LF—CMS3	CC72125	1
HAR	NXD10000066262	CM8 S2 LF Harness Assembly	ZX10197	1
C1		Cap 120uF 100V 5% Elec B04	CC57642	1
C2		Cap 0.01uF TDK 630V RAD EPCOS 10mm Pitch	CC87165	1
L1		Ind 2.52mH 1.2mm P2535+P4507 x 2 Cose Pacific	ZL11231	1
L2		Ind 1.0mH 1.2mm P2535+P4507 x 2 Cose Pacific	ZL11193	1
R2		Res 0R5 1% Powertron	RR34282	1
1		Cable Tie 300mm 4TR—1194#5	CC60001	4
2		Labwl CM8S3 LF Crossover	LL14214	1
3		Spacer, SRS8-8-01	HH31619	4
4		Heat Sink Ali ""Type B"" - 50.4mm Long	HH40363	1
5		Thermal Pad Q Pad II—102 (Bergquist)	HH31039	1
6		Heat Sink Clip 2004 800 Series X-Overs	PP19695	1
7		Adhesive Hot Melt 988A 11mm OD	AA14494	

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1. Tool Kit

The tools listed in the below table are required to carry out the servicing of the 704 Series 2 Speakers.

1.	HF/ MF Tool Kit 2017	 <p>① HH15148 - Screwdriver 4mm x 100mm ④ HH15156 - HF Removal Tool ⑦ HH38229 - Allen Key 4.0mm</p> <p>② HH15164 - Spring Hook Tool ⑤ MM09989 - HF Trim Removal Tool</p> <p>③ HH15121 - MF Removal Tool ⑥ HH37214 - HF Grille Removal Tool</p>
2.	Phillips Screwdriver	
3.	Allen Key 3.0mm	

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2. Cosmetic Inspection

A Cosmetic Inspection is done visually and should be done before any work commences. This is to ensure that there is no external damage to the 704 Series 2 Speaker.

The Cabinet (Including Speaker Terminals & Flowport) **(1)**, Tweeter **(2)**, Mid Driver **(3)**, Bass Driver **(4)** should be checked for damage during the inspection. (Damage should be noted in report)



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3. Plinth Removal

Prior to servicing the 704 Series 2, it is recommended that the Plinth is removed.

To safely remove the Plinth without damaging the 704 Series 2 we recommend following the below steps:

1. Place the cloth bag over the top of the 704 Series 2 ensuring that the Tweeter and top of the cabinet are covered. (The cloth bag is supplied with the original packaging)
2. Attach the Poly Top to the top of the 704 Series 2.
3. Carefully place the 704 Series 2 on its side. Ensure the poly remains in place.
4. Carefully lift the 704 Series 2 so that it is now upside-down on the poly.
5. You can now access the 4 screws at the base of the Plinth to safely remove the it without damaging the cabinet.
6. Reverse the process to safely turn over the 704 Series 2 and return it to its upward position.

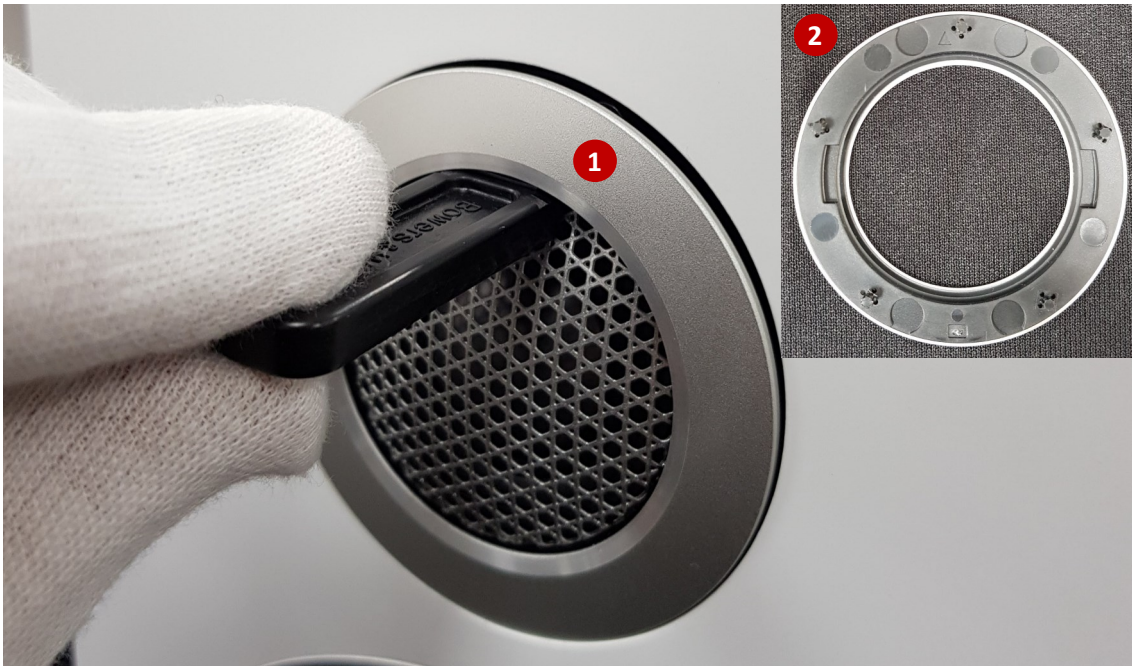
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4. Tweeter Removal

Start by using Tool 1.5 - MM09989 HF Trim Removal Tool. Insert the Lip of the Trim Removal Tool into the Tweeter Trim. Lever the Trim Removal Tool against the Grille until Tweeter Trim begins to lift from the cabinet **(1)**.

Note: Take care when putting pressure on the Grille so not to damage the Tweeter



The Outer-Rim can now be removed and placed to one side awaiting reassembly. Take note of correct orientation of the Tweeter Trim (Small arrow and single plastic peg at the top). **(2)**

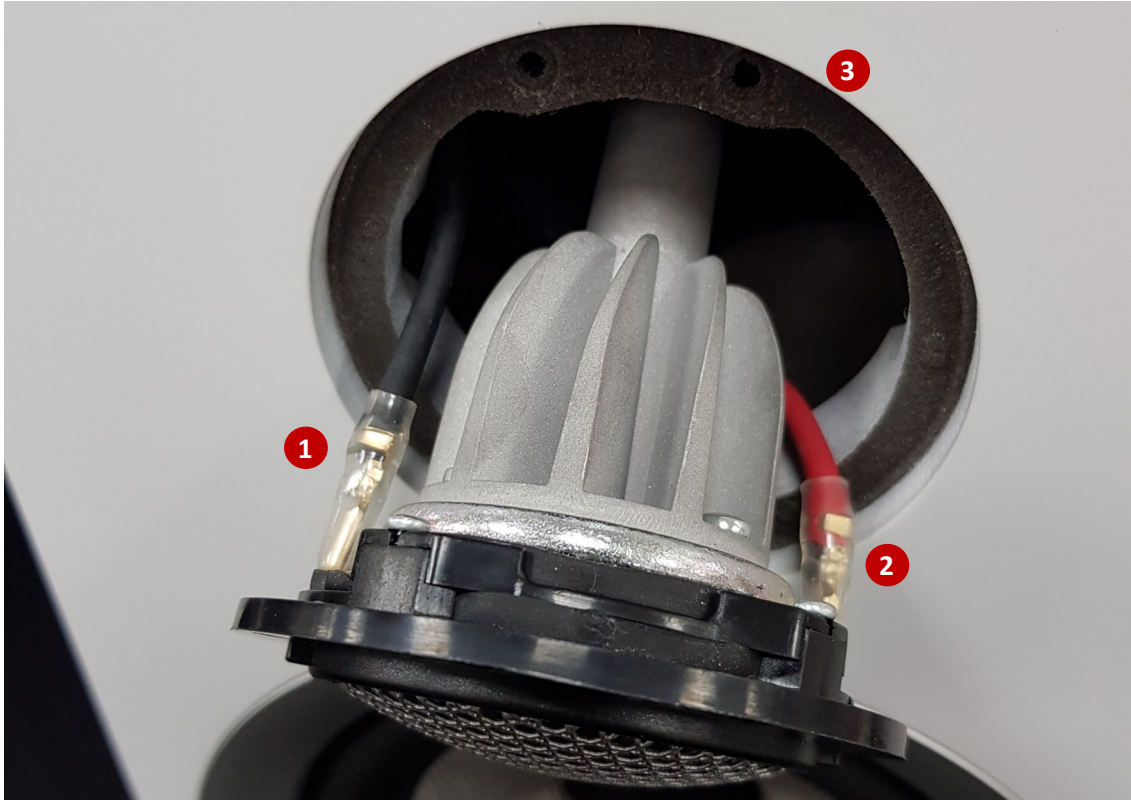
With the Tweeter Trim removed you are able to unscrew the 4 x Screws holding the Tweeter Assembly in place **(3-6)**.



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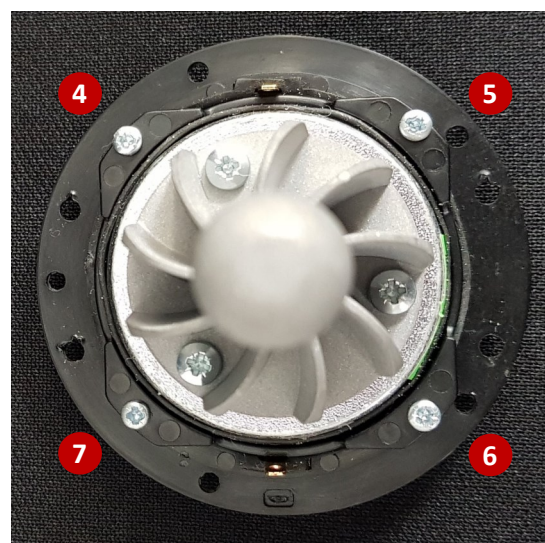
Carefully ease the Tweeter forward from the cabinet and remove the Black (-) **(1)** and Red (+) **(2)** Leads. Ensure that the Foam Gasket **(3)** remains in position for reassembly. (Take note of the red paint on the right (+) Tweeter connection, this is to show the Red (+) cable position)



Note: If the Tweeter is stuck in position and cannot be eased forward it may be necessary to remove the Mid/Base Speaker. This will allow access to the rear of the Tweeter Assembly so that you can gently push it forward until free.

With the Tweeter Assembly removed, access to the rear of the Tweeter can be gained. Start by removing the 4 x Screws **(4-7)** around the Plastic Retainer. The Plastic Retainer can then be removed and placed to one side.

Note: Take care removing the Plastic Retainer so as not to damage the Rubber Gasket.



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With the Plastic Retainer **(1)** removed you are able to use the magnetic side of Tool 1.5 – MM09989 HF Trim Removal Tool to gently lift the Tweeter Grille **(2)** from the Tweeter Assembly **(3)**



IMPORTANT: Ensure you do not touch the Tweeter when removing the Grille as this will mark or damage the Tweeter. This cannot be rectified without replacement.

Reassembling the Tweeter

Please work backwards through the Tweeter Disassembly process ensuring all the below points:

- Gaskets are correctly positioned and not damaged
- All screws are tightened
- Cables and tweeter are orientated correctly (Red Paint – Red Cable,)
- Tweeter Trim is correctly positioned with arrow and single plastic peg at the top

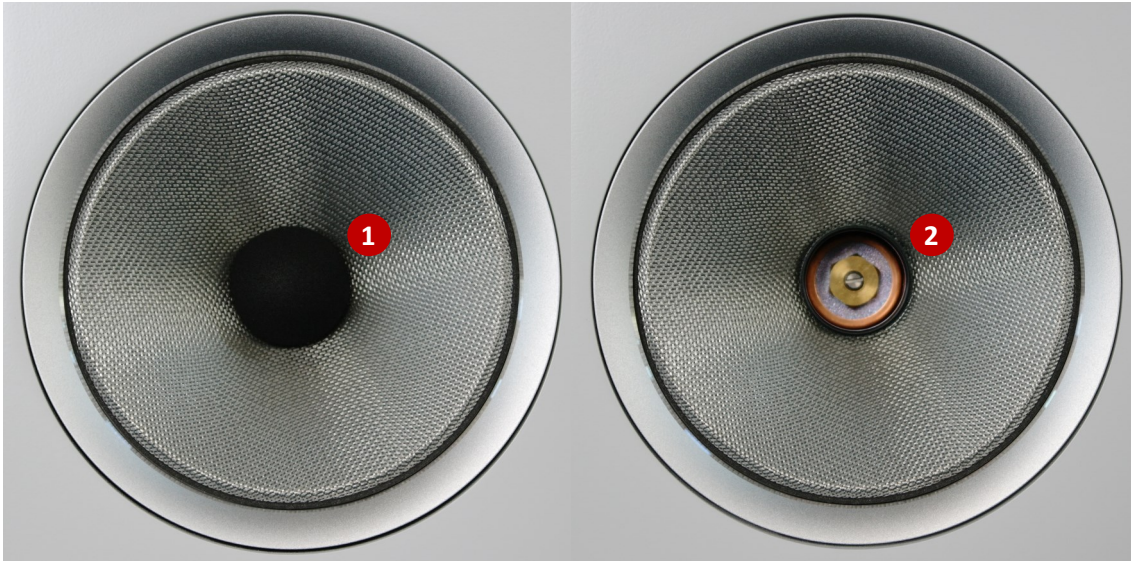
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5. Mid Removal

Start by gently easing out the Foam Dust Cap **(1)** at the centre of the Mid Unit. Minimal force is required as the Dust Cap should simply slot in and out of place.

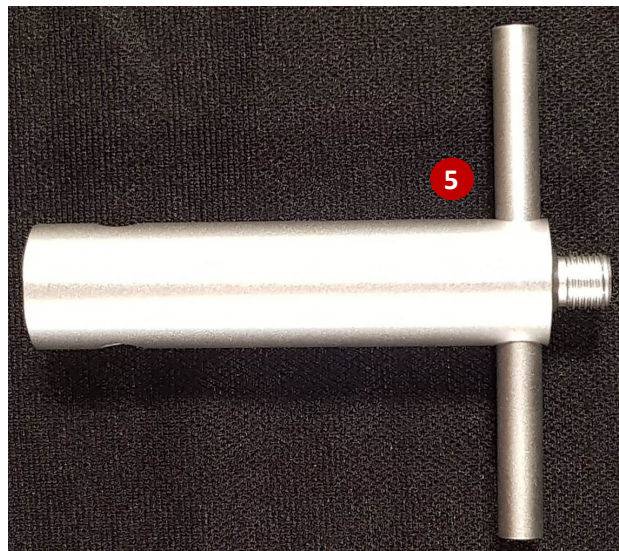
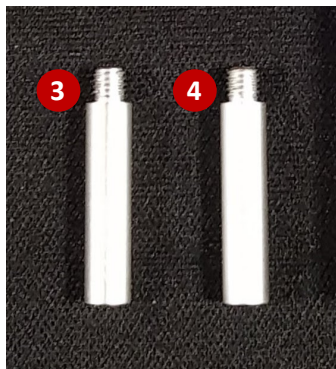
Once the Dust Cap is removed you will see the Drawbar Assembly **(2)**. For adjustment of the Drawbar please refer to [5. Drawbar Adjustment](#) on [Page 15](#).



To remove the Mid Unit you require Tool 1.3 – HH15121 MF Removal Tool. This can be found as Tool 3 in the HF/ MF Toolkit 2017.

The MF Removal Tool has two functions. The first required function is to remove the nut from the Drawbar Assembly.

Begin by attaching the two arms **(3 & 4)** two as shown in the below image **(5)**.



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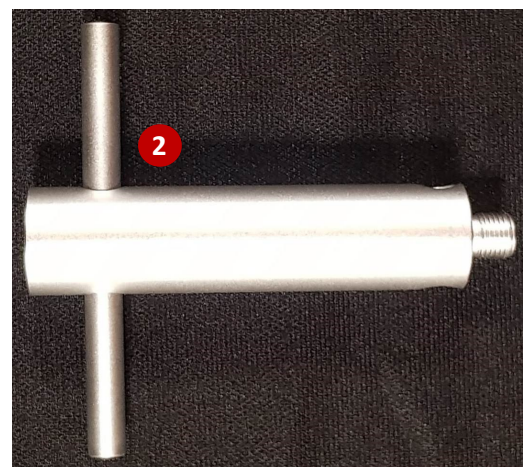
Once the MF Removal Tool has been correctly assembled you can use it to unscrew the nut from the Drawbar **(1)**.

Note: With the nut removed the Mid Unit is now sat freely on the Drawbar. Ensure that the Mid Unit does not slide forward as this may damage the cabinet.



Now that the nut is removed the next step is to adjust the MF Removal Tool to allow for its second function.

Unscrew both arms and screw them into the opposite end of the MF Removal Tool **(2)**.

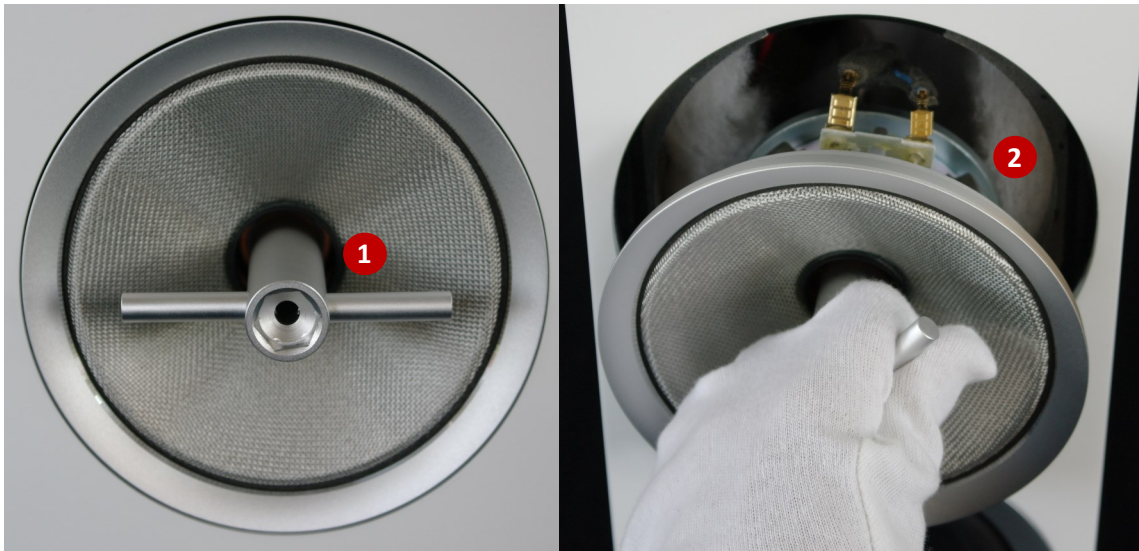


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You can now screw the adjusted MF Removal Tool into the center of the Mid Unit **(1)**.

Once the tool has been tightened in position you will be able to ease the Mid Unit off the drawbar and out of the cabinet **(2)**.



Note: Take note of the cable positions

- Brown = Positive (+)
- Blue = Negative (-)

With the Mid Unit removed you can clearly see the Drawbar **(3)** that the Mid Unit is mounted on allowing it to float in the cabinet.



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Reassembling the Mid

Please work backwards through the Mid Removal process ensuring all the below points.

- Brown (+) and Blue (-) cables are fitted securely and correctly
- Mid Unit is positioned on the Drawbar with the bar going through the hole in the back.
- Nut is tightened on the Drawbar. Do not over tighten.

6. Drawbar Adjustment

To perform the adjustment the Foam Dusk Cap must be removed. We also recommend that the Drawbar is adjusted while the 704 Series 2 is standing up. This is to ensure the correct positioning of the Mid Unit on the Drawbar.

The Mid Unit should be positioned centrally and flush with the cabinet edges.

To do this you require Tool 1.3 – HH15121 MF Removal Tool and Tool 1.1 – HH15148 Screwdriver 4mm x 100mm.

Tool 1.3 – HH15121 MF Removal Tool is used to tighten and loosen the nut which holds the Mid Unit on the Drawbar.

Adjusting this tightens the Mid Unit to the Drawbar

Tool 1.1 – HH15148 Screwdriver 4mm x 100mm is used to turn the drawbar which decreases and increases the tension on the spring at the back of the Drawbar. Turning this moves the Mid Unit in/ out of the cabinet.



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To carry out the adjustments you should attach Tool 1.3 – HH15121 MF Removal Tool to the nut **(1)** and then slide Tool 1.1 – HH15148 Screwdriver 4mm x 100mm into the end of the MF Removal Tool. Position the Screwdriver so that it finds the slot in the top of the Drawbar **(2)**.



To Move the Mid Outwards

To bring the Mid Unit towards you will need to also loosen the nut which holds the Mid Unit in position on the Drawbar. To do this please follow the below steps:

- Firstly, loosen the nut by turning the MF Removal Tool **(1)** anti-clockwise
- Secondly, simultaneously turn both tools **(1 & 2)** anti-clockwise until the Mid Unit sits in the desired position.
- Finish by turning the MF Removal Tool **(1)** clockwise to tighten the nut so that the Mid Unit is secure on the Drawbar. Do this with the Screwdriver in place to stop the Mid rotating. Ensure you do not over tighten.

To Move the Mid Inwards

To move the Mid Unit inwards please follow the below steps:

- Turn the Screwdriver **(2)** clockwise until the Mid Unit sits in the desired position.
- Turn the MF Removal Tool **(1)** clockwise to tighten the nut so that the Mid Unit is secure on the Drawbar. Do this with the Screwdriver in place to stop the Mid rotating. Ensure you do not over tighten.

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7. Bass Removal

Start by putting your fingers against the Rubber inner and your thumb on the edge of the Cabinet and gently ease the Aluminium Trim **(1)** outwards.

Pull evenly around the Aluminium Trim so as not to bend the Plastic Pegs. Continue this until the Trim comes away from the Cabinet.

Note: When reassembling, look to align the 4 x Plastic Pegs on the Aluminium Trim with the Plastic Sockets on the cabinet.



Place the 704 Series 2 on its back and use Tool 1.3 – Allen Key 3.0mm to remove the 4 x Hex Bolts **(2-5)**.

This will allow you to safely remove the Bass Unit without damaging the Cabinet.

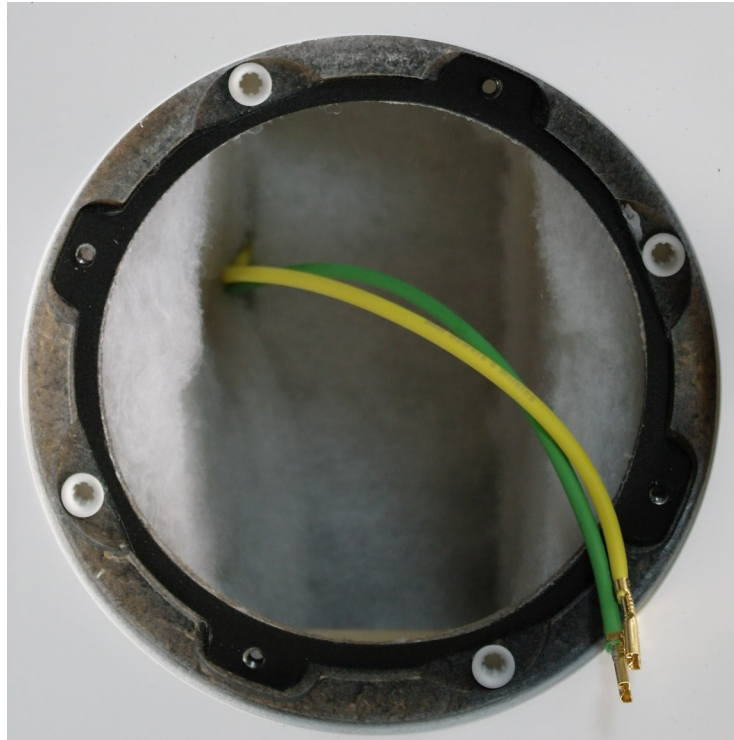


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Disconnect the Green (-) and Yellow (+) Cable connectors to fully remove the Bass Unit. Ensure not to damage the Gasket when removing the Bass Unit.

Note: The Green (-) and Yellow (+) Cables have different sized connectors to ensure correct positions when reassembling. (Green (-) Smaller & Yellow (+) Larger)



Reassembling the Bass

Please work backwards through the Bass Removal process ensuring all the below points.

- The Gasket is correctly positioned and not damaged
- Green (-) and Yellow (+) cables are fitted securely and correctly
- All screws are tightened

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8. Terminal Tray/ Port Removal

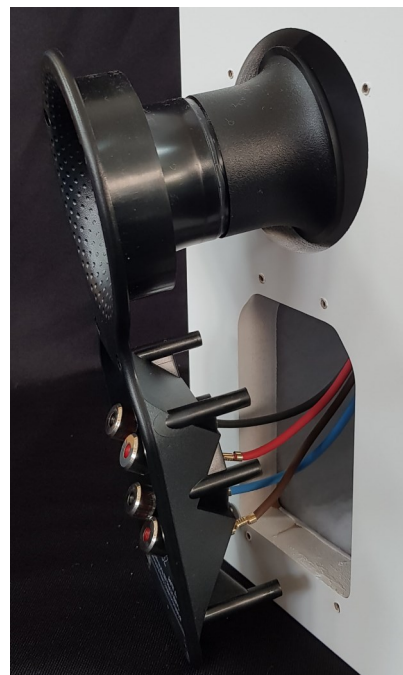
The Terminal Tray/ Port **(1)** can be found at the rear of the 704 Series 2.

To remove the Terminal Tray/ Port you need to carefully unscrew 6 x screws **(1-6)**



With the Terminal Tray/ Port detached you can gain access to the Speaker Terminal Connectors.

The Cables are connected to the Speaker Terminals with Crimped Spades which can easily be pulled off the Speaker Terminal Connectors. This enables you to completely remove the Speaker Tray/ Port and put it to one side.



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Correct position of the cables can be determined using the below image and bullet points:

- Red (HF+) **(1)**
- Black (HF-) **(2)**
- Blue (LF-) **(3)**
- Brown (LF+) **(4)**



Reassembling the Terminal Tray/ Port

Please work backwards through the Terminal Tray/ Port Removal process ensuring all the below points.

- Cables are fitted securely and correctly
- All screws are tightened

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9. HF/ MF & LF Crossovers

The 704 Series 2 has two Crossovers HF/ MF Crossover and LF Crossover. We recommend that the removal process is carried out while the 704 Series 2 is laying on its back to ensure cabinet safety.

To gain access to the Crossovers you need to remove both Bass Units. To do this please follow the [6. Bass Removal](#) process which begins on [Page 20](#).

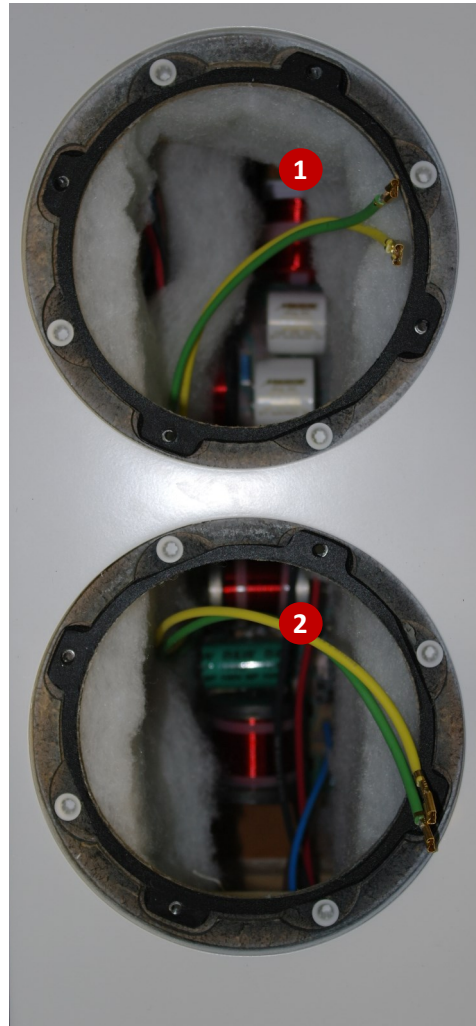
Note: Take care when removing the Bass Units so as not to damage the Gaskets.

With both Bass Units removed and the two sheets of wadding put to one side you can clearly see both Crossovers.

- HF/ MF Crossover **(1)**
- LF Crossover **(2)**

Note: Take note of the cable positions and which cables go to which Bass Units.

On the LF Crossover the LF Cables are labelled LF1 to LF2. This corresponds to the intended Bass unit.



Bass Unit 1 (LF1) can be found at the top, working down to Bass Unit 2 (LF2) at the Bottom of the cabinet.

Next you need to remove the Terminal Tray/ Port. To do this please follow the [7. Terminal Tray/ Port Removal](#) process which begins on [Page 22](#).

Removing the Terminal Tray/ Port allows you to free the Blue, Brown, Red and Black cables that lead to both Crossovers.

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HF/MF Crossover Removal

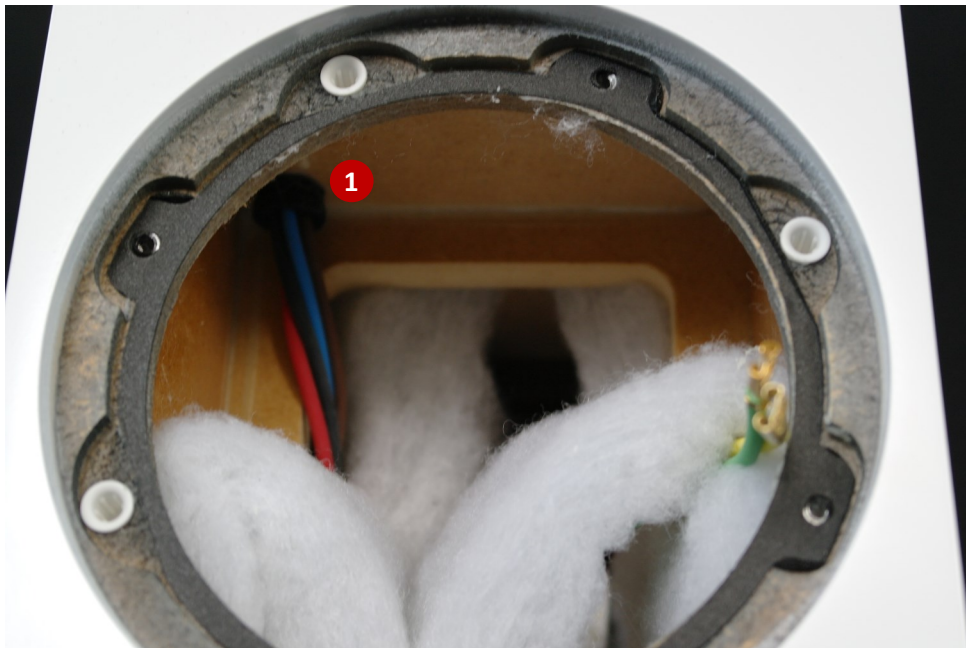
With the Bass Units and Terminal Tray/ Port removed you have clear access to the Crossovers. To remove the HF / MF Crossover you also need to remove the Mid Unit and Tweeter.

To remove the Mid unit please follow the [4. Mid Removal](#) process which begins on [Page 15](#).

To remove the Tweeter please follow the [4. Mid Removal](#) process which begins on [Page 15](#).

Now the Mid Unit and Tweeter are removed you are able to pull the Rubber Bung (**1**) through the cabinet. This frees the HF and MF cables.

Minimal force is needed to pull the bung through the cabinet.

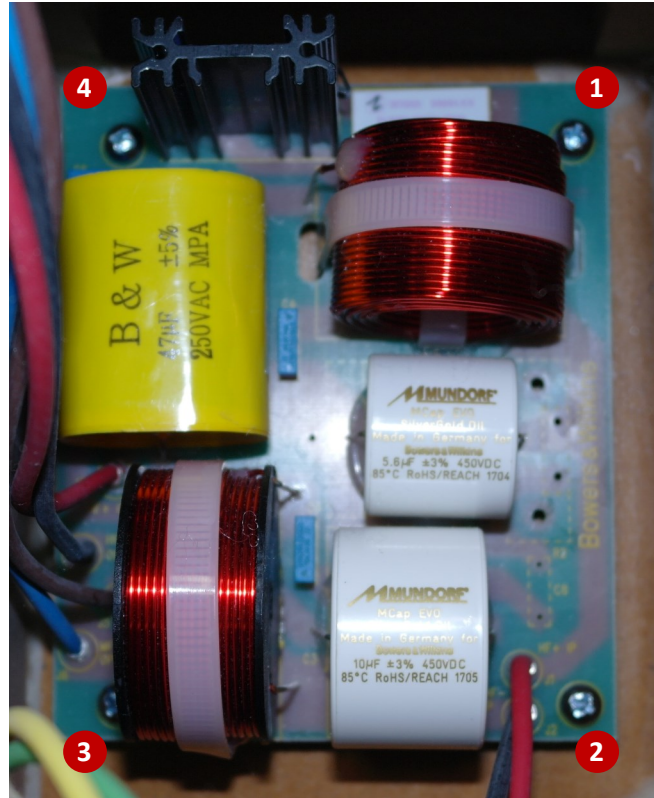


Note: The cables do not need to be removed from the bung.

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All cables should now be free. To remove the HF/ MF Crossover from the cabinet you need to unscrew 4 x screws **(1-4)**.



With the 4 x screws removed you can fully remove the HF/ MF Crossover.

Reassembling the HF/ MF Crossover

Please work backwards through the HF/ MF Crossover Removal process ensuring all the below points.

- The Crossover is screwed into its original position using the existing holes.
- The Bung is fitted securely into the cabinet.
- Wadding is positioned back in the cabinet.

Once this is complete, follow the [Reassembling the Bass](#) process on [Page 21](#) , [Reassembling the Tweeter](#) process on [Page 14](#) and [Reassembling the Terminal Tray/ Port](#) process on [Page 23](#) to return the 704 Series 2 to a complete state.

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10. Functional Test (Stethoscope Examination of Speakers)

Aim of the Test

The stethoscope functional test can quickly reveal any air leaks or flaws following a repair to a loudspeaker. The only sound coming from a loudspeaker enclosure should be from the driver components themselves, not the surfaces or seams of the speaker cabinet.

We normally hear in stereo as a result of our ears being placed at two separate points in space separated by several inches. When you use the stethoscope both of your ears hear from the same single point at the position of the listening piece. You are now listening not in stereo, but rather in mono mode which allows a greater accuracy in examining a particular sound source.

Performing a Stethoscope Examination on a Speaker

For the following tests you should remove the chest piece from the end of a stethoscope and listen via the tube only.

There are two test options for this speaker:

Test 1

Drive the speaker via an amplifier and signal generator set in the low bass region (20 to 60 Hz). Listen for air leaks at the enclosure seams, driver mounting edges, and jack plates. The smallest air leak will be heard clearly.

Test 2

Start by playing your choice of music (frequency) through the speaker you wish to examine and keep the volume moderate.

Place the earpieces of the stethoscope in your ears and place the listening tube around the piece on the Speaker Cabinet that you wish to examine.

Place the listening tube several inches in front of each driver, in a multi-way speaker system you can hear each individual driver to a great extent.

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Pan between the Tweeter and Mid/Bass, by moving the listening piece between points **1** and **2**.



Sensitive panning between drivers allows you to listen for phase effects such as a notch in the frequency response at crossover.

Carefully move the listening tube about the surface of the enclosure noting the sound level remains consistent.

Once these tests are complete and no leaks are found the Speaker is ready for its final clean before being returned to the customer.

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11. Cleaning

The cabinet surfaces will usually only require dusting however if you wish to use an aerosol or other cleaning product, apply the cleaner onto a clean soft cloth (not directly onto the product) and test a small area first as some cleaning products could damage the surface of the cabinet.

Avoid products that are abrasive, contain acid, alkali or antibacterial agents. Marks on the paint surface may be removed with a dilute perfume-free soap solution.

Remove any remaining streak marks by spraying with a proprietary glass cleaner and lightly wiping dry with a microfibre cloth. Do not use cleaning agents on the drive units and avoid touching them as this may result in damage.

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12. Spare Parts List

TYPE	PART #	DESCRIPTION
ACCESSORIES	FF24295	Foam Bung 2 Part (55OD- 32ID/OD)x45-50mm
ACCESSORIES	GG12742	Gasket 5" Chassis PM/CM/68x s2
ACCESSORIES	GG14184	CM S2 HF GASKET
ACCESSORIES	HH05010	Allen Key 5mm A/F
ACCESSORIES	HH36463	MF Centraliser Nut
ACCESSORIES	MM14613	Decoupler MF - front CMs3 5in
ACCESSORIES	PP17601	Port Tube Inc Flare 50x25mm Abs Black
ACCESSORIES	RR35211	T/Ring Assy LF 5" CM S3 Dark
ACCESSORIES	RR35289	T/Ring Assy LF 5" CM S3 Light
ACCESSORIES	RR35432	Trim Assy HF-CM s3(in Baffle) Light Tint
ACCESSORIES	RR35440	Trim Assy HF-CM s3(in Baffle) Anthracite
ACCESSORIES	ZE01601	Accessory Pack Spikes Rubber Feet Clr x4
ACCESSORIES	ZE02014	683/4 CM8/9/10 Plinth Kit accessory pack
ACCESSORIES	ZT26670	Term Tray/Port 50mm Nickel 6 Mntg Studs
ACCESSORIES	ZZ28665	CM8 S2 PLINTH ASSEMBLY BLACK
ACCESSORIES	ZZ28673	CM8 S2 PLINTH ASSEMBLY WHITE
ACCESSORIES	ZZ34142	Midrange Fixing Assembly CM10 S3
ACCESSORIES	MM09989	Tweeter Trim Removal Tool Assembly
ACCESSORIES	SM00914	HF/MF Toolkit 2017
BASS UNITS	LF26824	Bass Unit 5" 704 S2
GRILLES	GG16012	GRILLE MESH CM s3 HF (I/B) BLACK
GRILLES	GG16020	GRILLE MESH CM s3 HF (I/B)SATIN CHROME
GRILLES	ZG02899	Grille Assembly CM8 - S1/S2 Black N50
GRILLES	ZG04579	Grille Assembly CM8 - S1/S2 Grey N50
MIDRANGE	LF27170	Mid 5" Dark Trim 704 s2 - SPARES ONLY
MIDRANGE	LF27189	Mid 5"Light Trim 704 s2 - SPARES ONLY
PACKAGING	PP28137	Card Corner 683 Packaging
PACKAGING	PP38393	Poly Top CM8 S2
PACKAGING	PP39659	CM8 S2 Baffle Protection Cover
PACKAGING	PP39845	Poly Plinth Protection CM8 S2
PACKAGING	PP40045	Poly Bottom CM8 S2
PACKAGING	PP41270	Bag Parafoam 480(Open End)x1120
PACKAGING	PP41386	Parafoam Sheet Protection 0.7X285X1045
PACKAGING	PP44830	Carton 704 S2
TWEETERS	HF01511	Tweeter Baffle Mounted 700 S2
X-OVER	XX16950	X-Over LF 704 S2
X-OVER	XX16969	X-Over HF/MF 704 S2

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13. Product Test List

Passive Loudspeakers

- Sweep Frequency Test
20 Hz – 20 kHz (3 volts, all products) check for distortion & balance between left & right speaker
- Spot Frequency Test
4 volts – Book shelf
5 volts – Floor standing
6 volts – Headed (800 series)
 - a) Between 20 – 50 Hz, check for air leaks around all joints & fixtures.
 - b) At 30 Hz, check for internal leaking into midrange cavity (check Mid-range driver is not moving)
 - c) Between 20 – 500 Hz, check for rattles, buzzing & any other unwanted noise.
 - d) Check for correct phase of all drive units.
 - e) For Dipole, check functionality of dipole switching at 200 Hz

Headphones

- Listen for unwanted noise between 20 Hz – 20 kHz (using hygienic ear cup)

Active devices – Subwoofers & Docking stations etc.

- Set product to half volume & follow procedure as per above instructions, from (a) to (d)
- Check functionality of the following:
 - a) Ethernet, Auxiliary, USB, Component & Headphone Output
 - b) Silent audio track, check for hum at 1 Meter
 - c) Flash test ALL mains power supply units
 - d) Soak test for 1 week with audio signal all units returned more than once.
 - e) Check functionality of GUI as per user manual

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14. Test Result Sheet

Reason for return:		<input type="checkbox"/> In Warranty
		<input type="checkbox"/> Out of Warranty
		<input type="checkbox"/> Chargeable
PAT Testing Required	No	Date done: N/A
Received packaging re-useable - - Yes / No		Serial no.

1. Tools and Equipment Required

Part Number	Description
	HF/ MF Tool Kit 2017
	Phillips Screwdriver
	Allen Key 3.0mm
	Spanner 17mm
	Molex Tool

Documents Required

Document Number	Description

2. Cosmetic Inspection: Tick the box to confirm check done and add comments in notes if required

- Check Cabinet for Damage Check Crossover Connectors
 Check Tweeter/Grille Check Terminal Links
 Check the Sub-Woofer
 Check the Cabinet Grille Cover

Notes:

Date:	Operator:
-------	-----------

1st Review Before Service/Repair: Commercial / Sales / Technical

- Carrier informed of damage Claims form raised
 Customer informed of damage Customer quoted

Authorisation:	Date:
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Repairs performed and replacement parts used (List the quantity, part number and serial numbers):

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3. Functional Test:	Add initials to the box
Connect 707 S2 Speakers to Amp/CD Player and check for Sound Yes/No	Yes/No
Check audio for Tweeter & Mid/bass output is working Yes/No	Yes/No
5. Speaker Bi-Wiring	
Check RH/LH speakers are working Bi-wire Yes/No	Yes/No
8. Tweeter Assembly	
Does it need replacing? Yes/No (LH/RH or Both)	Yes/No
9. Mid/Bass Assembly	
R/H Speaker working? Yes/No	Yes/No
L/H Speaker working? Yes/No	Yes/No
10. Crossover Assembly	
Terminal Links need replacing? Yes/No (LH/RH or Both)	Yes/No
Does it need replacing? Yes/No (LH/RH or Both)	Yes/No
12. Final Functional Test	
Connect 707 S2 Speakers to Amp/CD Player and check for Sound Yes/No	Yes/No
Check audio for Tweeter & Mid/bass output is working Yes/No	Yes/No
Check RH/LH speakers are working Bi-wire Yes/No	Yes/No
Check RH/LH Tweeters and Mid/Bass speakers for any leakage using a Stethoscope Yes/No	Yes/No
Check RH/LH Terminal Links are fitted Yes/No	Yes/No

2nd Review During Service and Testing: Commercial / Sales / Technical	
Note: Additional parts <div style="display: flex; justify-content: space-around; align-items: center;"> Customer informed of damage <input type="checkbox"/> Customer quoted <input type="checkbox"/> </div>	
Authorisation:	Date:

<input type="checkbox"/> Results Recorded	Date:		Checked by:	
<input type="checkbox"/> Clean 707S2 Speakers	Date:			
Successful completion of repair and all documentation completed			Management Signature:	

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