

HRS 120 User Manual



This product complies with European Union EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EC)

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1. INTRODUCTION

Thank you for selecting the German Physiks HRS 120 loudspeakers for your audio system. The HRS 120 is a 2 way design using a single DDD driver and a high performance cone woofer coupled to a Helmholtz resonator. It is entirely handmade and is built and tested by highly skilled technicians at our factory in Maintal in Germany.

Every step in the design and manufacture of this product has been dedicated to producing a loudspeaker that will provide a lifetime of musical enjoyment.

We strongly recommend that you read this manual before attempting to use the loudspeakers as it will enable you obtain the best performance from them.

2. HRS 120 UNPACKING INSTRUCTIONS

NOTE: Before attempting to lift the loudspeakers, remove any rings, watches or other items of jewellery or clothing that may scratch or otherwise damage the finish of the cabinets.

When lifting the loudspeakers out of the packing hold them around the cabinet.

Do not lift them by the DDD driver support pillars or by the cabinet supports (figure 4) as this may damage the driver.

Each HRS 120 weighs approximately 30kg (65lbs) and should not be lifted by one person alone. Always have help when lifting an HRS 120.

The HRS 120 is supplied with both loudspeakers packed inside one carton. This must be kept upright as shown in figure 1. Before opening the carton, please inspect it for damage. If you see any damage, please contact the supplying audio dealer immediately and provide them with a full description of the damage. Do not attempt to unpack the loudspeakers until you have spoken with the dealer and have been advised how to proceed.

To unpack the loudspeakers please follow the instructions below:

1. Referring to figure 1, unscrew and remove the four securing screws A from the top cover of the carton B and then lift off the top cover. Do not remove the four screws from the carton lower tray at this point.

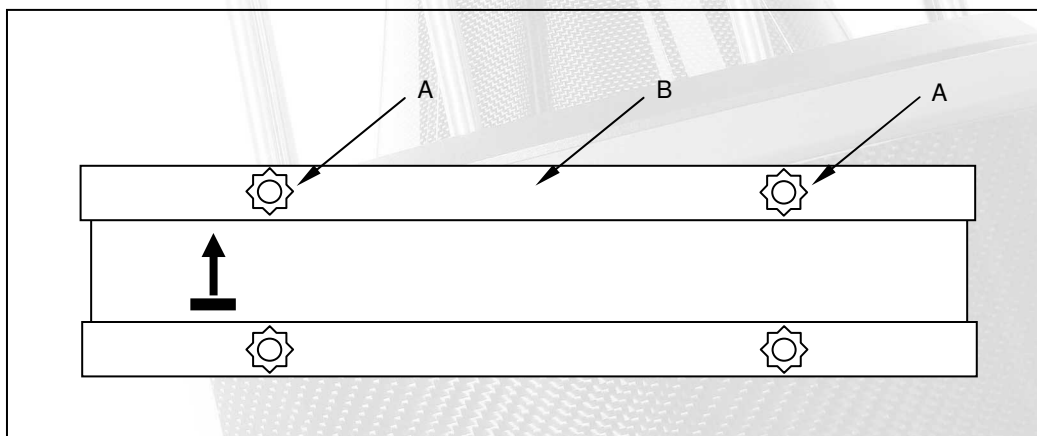


Figure 1. HRS 120 Shipping Carton

2. Remove the two foam packing pieces 'C' in figure 2.

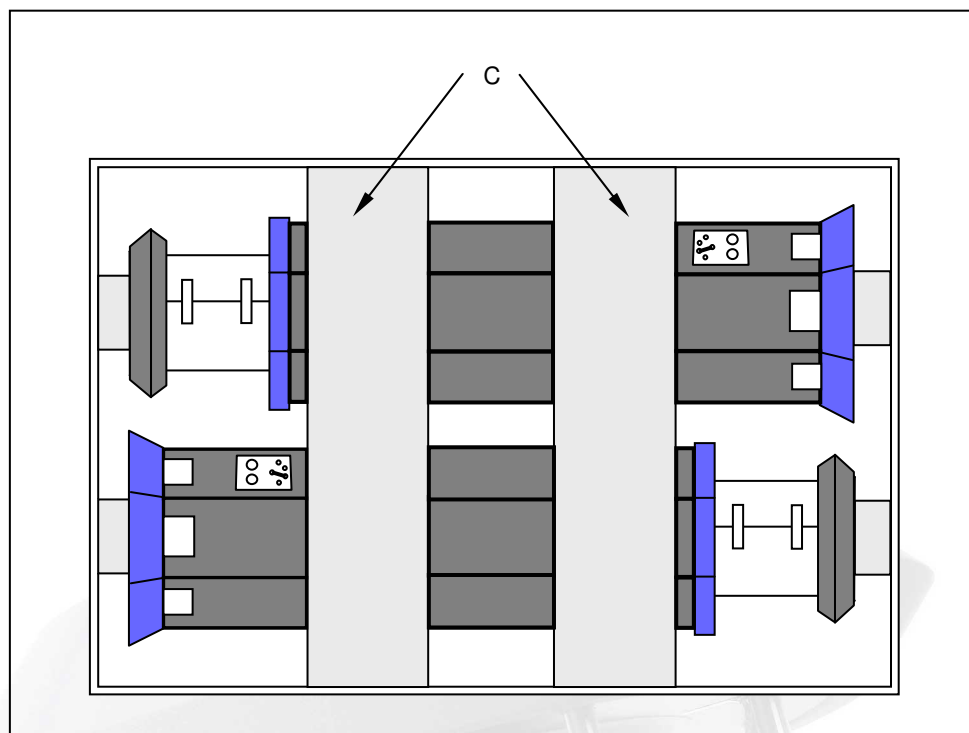


Figure 2. HRS 120 Shipping Carton

3. Lift the loudspeakers off the carton lower tray by holding them around the cabinet. Do not lift them by the DDD driver support pillars or the cabinet supports – figure 4.
4. Remove the two foam protective rings from each loudspeaker.
5. The DDD driver may be fitted with a clear film or cardboard cover. This should be left on for the time being to provide protection while the loudspeaker is being handled.

Please confirm that the carton contains the following items:

Item	Quantity	Description
1	2	HRS 120 Loudspeakers
2	1	HRS 120 User Manual
3	2	Cleaning Cloths

If any items are missing or shows signs of damage, please contact the supplying dealer immediately.

Please retain all of the packing as you will need this should it be necessary in the future to ship the loudspeakers. The use of any other packing may result in the loudspeakers sustaining damage in transit. Such damage is not covered by the warranty. Should you require replacement packing, please contact your German Physiks dealer, the national distributor or the factory directly.

Storing the Shipping Carton

Referring to figure 3, the centre section of the shipping carton, B, may be removed and folded flat for more convenient storage by removing the four lower tray securing screws A.

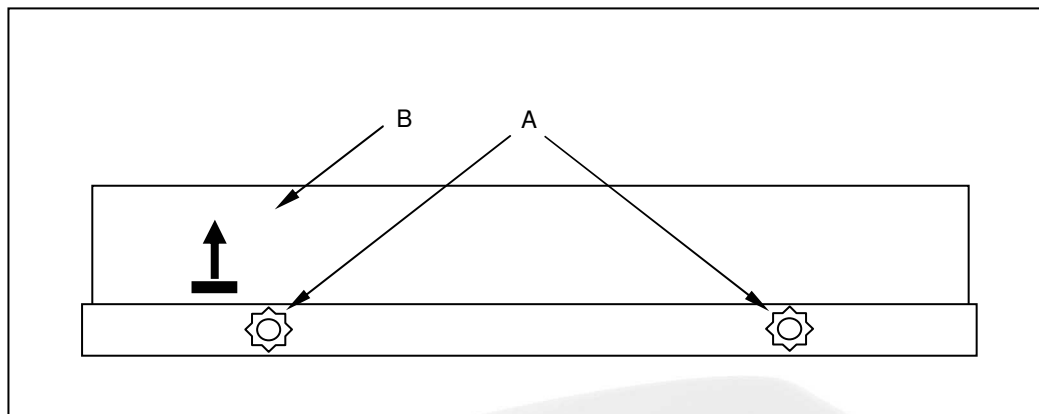


Figure 3. Collapsing the HRS 120 Shipping Carton

3. THE PRINCIPLE FEATURES OF THE HRS 120

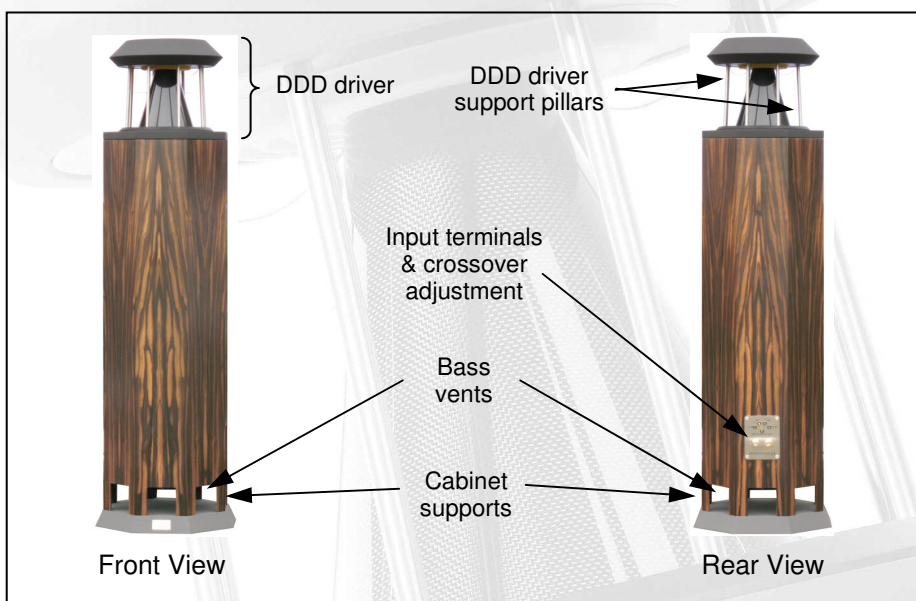


Figure 4. The Principle Features of the HRS 120

4. LOUDSPEAKER PLACEMENT AND SET-UP

NOTE: DO NOT place the loudspeakers close to cathode ray type monitors or projectors, as the very powerful magnets used in the drivers may affect the picture. We recommend a minimum separation of 2m.

Adjusting the Spikes

NOTE: We strongly recommend having an assistant help to hold the loudspeakers while the spikes are being adjusted.

The base of the HRS 120 is fitted with four spikes. These are double ended as shown in figure 5 and are locked in position with a nut. You will need an open ended 10mm spanner to adjust them - figure 6.

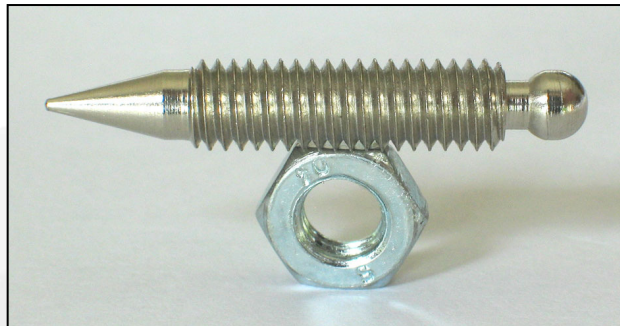


Figure 5. Double Ended Spike and Nut

The round ends of the spikes should be used when the loudspeakers are to be placed on a hard floor such as tile or wood and the pointed ends should be used when the loudspeakers are to be placed on a carpeted floor. The HRS 120 is shipped with the round end of the spikes facing out.

When placing the loudspeakers on a carpeted floor, ensure that the spikes are set to protrude sufficiently from the base to pass through the carpet and make firm contact with the underlying floor.

The easiest way to adjust the spikes is to lay the loudspeaker on its side. To protect the finish, we suggest that you use a clean soft blanket to lay the speaker on. Set the two spikes at the back and the left hand front spike to protrude approximately the same amount - within 1 or 2mm – and then tighten the locking nut. Set the right hand front spike to protrude the same amount, but do not tighten the locking nut.

Stand the speaker up and place it in its initial position. Please refer to figure 7 for guidance on positioning. The face of the cabinet with the input terminals on should be facing directly backwards

If the HRS 120 is placed on a carpet, push downwards on the cabinet at the base of the DDD driver and ensure that the spikes are in firm contact with the underlying floor. Do not push on the top of the DDD driver.

To check that the loudspeaker is sitting squarely on the spikes:

1. If the loudspeaker can be rocked in the 10 o'clock to 4 o'clock direction, lean the loudspeaker to the left and screw out the right hand front spike by the amount of movement you saw at the base of the cabinet. It is best to have an assistant to help you hold the loudspeaker. Stand the loudspeaker back up and repeat the process until the loudspeaker is sitting squarely on its spikes. Lean the loudspeaker to the left again and

tighten the nut on the right front spike (figure 6), taking care not to change the spike's setting.

2. If the loudspeaker can be rocked in the 2 o'clock to 8 o'clock direction, lean the loudspeaker to the left and screw in the right hand front spike by the amount of movement you saw at the base of the cabinet. It is best to have an assistant to help you hold the loudspeaker. Stand the loudspeaker back up and repeat the process until the loudspeaker is sitting squarely on its spikes. Lean the loudspeaker to the left again and tighten the nut on the right front spike (figure 6), taking care not to change the spike's setting.

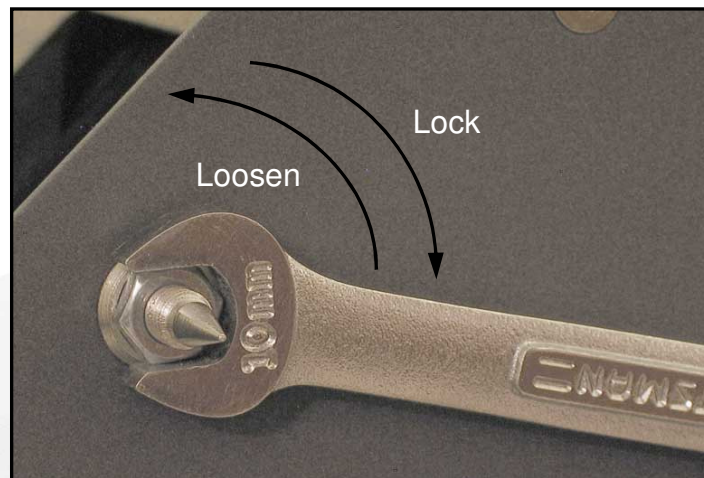


Figure 6. Tightening a Spike Nut

Listening Room Layout

The following points will help you optimise your listening room layout.

1. The left and right sides of the room should be symmetrical. If the room is asymmetrical, this will degrade the quality of the stereo image. This is because most of the sound energy that you hear is reflected before it reaches your ears.
2. Place the loudspeakers symmetrically in the room, i.e. the same distance from the centre line of the room and the same distance from the front wall.
3. Avoid placing the loudspeakers similar distances from the side and front walls, as this may lead to an uneven bass response
4. Avoid having any hard surfaces between your listening position and the loudspeakers. This will generate additional reflections that may degrade the stereo image. For this reason, where ever possible equipment should be located at the side of the room. If you have a hard floor (tile or wood), it may be advantageous to place a carpet on the floor covering the area between the loudspeakers and the listening position, as this will reduce unwanted early reflections.
5. Avoid having the listening position closer than 1.2m from the rear wall as early reflections from this wall will degrade the stereo image.

Loudspeaker Placement

Distance from Front Wall

We recommend that you start with the speaker positioned 1.5m from the front wall. As you move the speaker closer to the wall the level of the bass response will be increased. The converse will be true as you move the speaker away from the front wall. The HRS 120 should not be placed closer than 1m from the front wall. If the speaker is too close to the front wall, not only will the bass response be excessive, but the stereo image will be degraded due to an increase in early reflections. Aim to find a position that provides an even bass response so that all the bass notes in the music are reproduced at an equal level, combined with well a focussed stereo image when you are seated at the listening position. Be sure to choose a recording that has an even bass response.

Distance from Side Wall

We recommend that the distance between the centres of the loudspeakers be $\frac{2}{3}$ of the distance of the loudspeakers from the listening point. Moving the speakers further apart will degrade the stereo image.

We do not recommend placing the loudspeakers closer than 1m from the side walls, as the early reflections will degrade the stereo image.

Positioning the speakers too close to the side walls will also lead to an uneven bass response. Aim to find the position that provides the best defined and most realistic stereo image when you are seated at the listening position.

Figure 7 gives a general guide to speaker positioning and the location of the listening position. Note how the recommended listening position varies with the separation between the loudspeakers. Because the HRS 120 is an omni directional loudspeaker, there is no need to adjust the toe-in angle. The loudspeakers should always be set with the front of the speakers facing down the room.

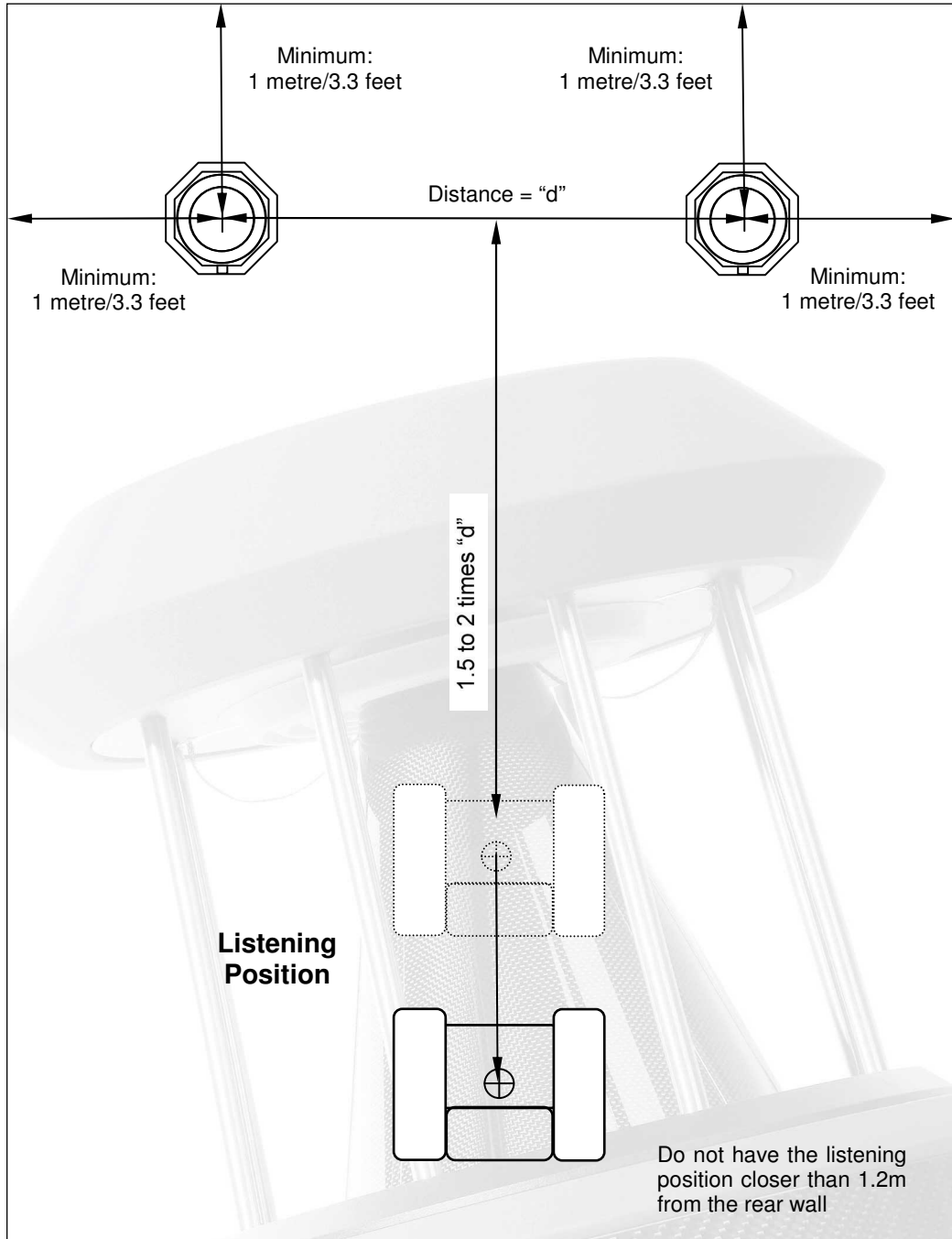


Figure 7. Listening Room Arrangement

5. CONNECTING YOUR LOUDSPEAKERS

NOTE: An amplifier capable of delivering at least 100W rms into 4 ohms per channel should be used for each loudspeaker.

The HRS 120 is a 2 way design with the provision to allow the level of the high frequencies to be adjusted. The input terminals and high frequency level control are located on a panel on the back of the cabinet – figure 8.

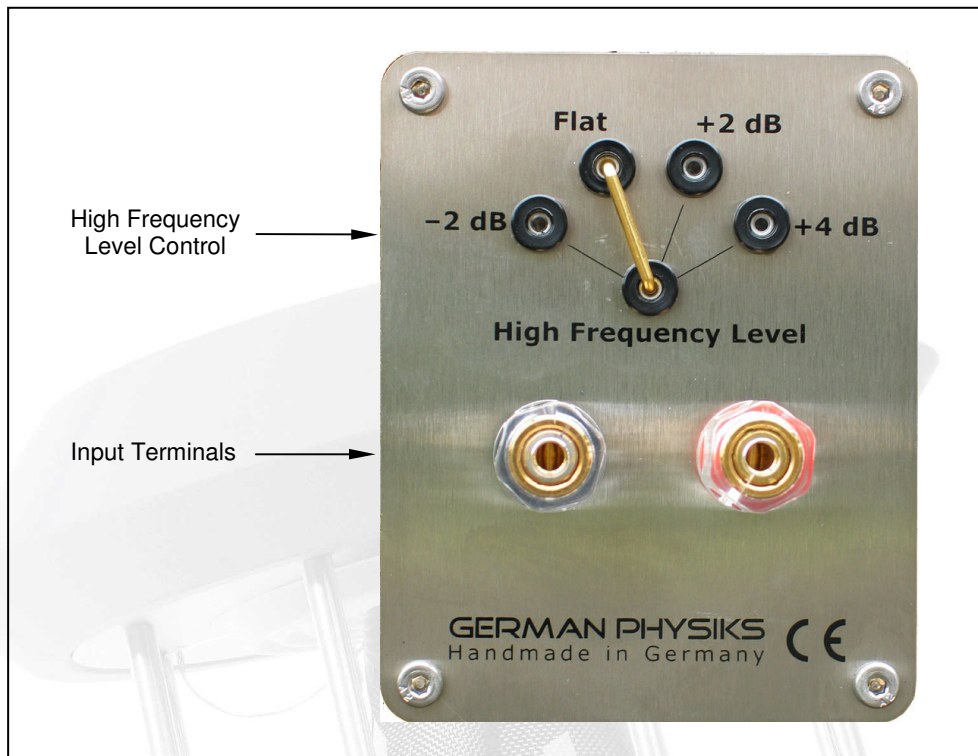


Figure 8. Input Terminals and High Frequency Level Control

High Frequency Level Control

This adjusts the output from the DDD driver and is centred at 8,000Hz. 4 settings are provided: -2dB, flat, +2dB and +4dB. To adjust the control, pull the jumper out and then push it back into the appropriate pair of sockets. For the initial setting of the speaker this should be set to the flat position. After completing the break in period we suggest that you experiment with different settings to determine which gives the most satisfactory frequency balance.

Input Terminal Connections

NOTE: The loudspeaker terminals should be tightened as firmly as possible by hand. Do not use pliers or any other tools as this may damage the terminals.

We recommend that you use loudspeaker cables terminated with high quality spade lugs, as these provide the best electrical connection. The lugs should be either soldered or crimped to the speaker cable – the latter is preferred. We do not recommend the use of bare wire to connect to the speaker terminal. This produces an inferior connection that will further degrade as the bare conductors become tarnished.

NOTE: Do not switch the power amplifier on until the DDD driver shipping covers have been removed as shown in section 6.

6. REMOVING THE DDD SHIPPING COVERS

If your HRS 120 is fitted with titanium DDD drivers these will be covered with either a layer of clear film or cardboard to protect them whilst in transit. This should now be removed. The film should be peeled off by hand. Do **not** use a knife.

To remove the cardboard protector, slit the adhesive tape securing it by sliding a **short** bladed knife between the two layers of cardboard whilst holding the knife as shown in figure 9. Do not cut in the way shown in figure 10, as there is a danger that you will cut the DDD driver diaphragm.



Figure 9. The Correct Way to Remove a DDD Driver Cover



Figure 10. The Wrong Way to Remove a DDD Driver Cover

7. LOUDSPEAKER BREAK IN

Like all audiophile equipment, German Physiks loudspeakers require a break in period from new before they reach their optimum level of performance. The music used for the break in should be dynamic in order to properly exercise all the components of the loudspeaker.

For the first 10 hours play the loudspeaker at low level only. This is a level where you would easily be able to carry out a conversation without needing to raise your voice.

After this, the speaker may be played at normal listening levels. The break in process will be complete after 200 to 300 hours.

8. CARE OF YOUR LOUDSPEAKERS

NOTE: NEVER attempt to open the cabinets. There are no user serviceable parts inside the loudspeakers.

NEVER touch the diaphragm on the DDD driver, or allow any object to come into contact with the diaphragm.

NEVER attempt to clean the dust off the diaphragm. Dust has no affect on its performance and may be safely ignored.

NOTE: NEVER attempt to clean the speakers with any abrasive materials or any cleaners containing ammonia, alcohol or other solvents, as these may damage the finish.

The only maintenance the speakers will require is periodic dusting to remove dust and any finger prints from the cabinets. Please use the cleaning cloths supplied with the loudspeakers. These cloths should be used dry. Do not use any form of liquid with them. Additional cloths may be obtained via local your German Physiks dealer, national distributor or direct from German Physiks.

9. WARRANTY

Your German Physiks loudspeakers are warranted to be free from defects if used under normal conditions for a period of 5 years from the date of purchase, provided that the customer registers their purchase by completing and returning the registration form at the end of this manual within 7 days of purchase. A copy of the receipt issued at the time of purchase must also be returned. If this is not done the warranty period will be 5 years from the date of shipment from the factory. This warranty is transferable to subsequent owners, who must register their purchase with us.

Modifications or repairs performed by the factory, or by an authorised repair agent, shall be guaranteed for the remaining period of the warranty, or for 1 year, which ever is greater.

Any unauthorised modifications or repairs will invalidate the warranty. The warranty will also be invalidated if German Physiks determines that the unit has been subject to misuse including, but not limited to, burnt out voice coils and dents or scratches on driver diaphragms or cabinets.

There is no other express warranty on German Physiks products. This warranty shall not extend beyond the stated warranty period. No responsibility is assumed for incidental or consequential damage.

10. SERVICE AND SUPPORT

In the first instance please contact your local German Physiks dealer or distributor. They will diagnose the fault and liaise with German Physiks to decide the best way to affect a repair. If they are unable to assist you, please contact German Physiks by phone on + 49 61 09 50 29 823, by fax on + 49 61 09 50 29 826, or by email at service@german-physiks.com. You may also contact us via our web site at www.german-physiks.com. Please take into account time differences between Germany and where you are calling from should you need to phone us. Email is our preferred method of initial contact. Please supply the model name and serial numbers of your loudspeakers and as much detail of your problem as possible. The serial number is printed on a label attached to the underside of the loudspeaker's base plate.

In the vast majority of cases, the repair will be dealt with by sending spare parts from the factory. In the unlikely even that it becomes necessary to return your loudspeakers or any part of them to the factory, you will be given a Return Authorization (RA) number. This number must be clearly marked on the outside of the packing. Returns made without a RA number will not be accepted. Any returned items must be shipped in the original packing. German Physiks will not be responsible for any damage that occurs as a result of the use of non-standard packing. Returns received in non-standard packing will be replaced with new packing at the owner's expense. If you need new packing, please contact your German Physiks dealer or the factory.

For items returned to the factory under warranty during the first year, German Physiks will pay for the shipping charges both ways. A shipping company approved by German Physiks must be used and the items will be returned to the customer using the same carrier, or an equivalent service.

For loudspeakers returned to the factory under warranty after the first year, the customer is responsible for paying all shipping and related charges back to the factory. A shipping company approved by

German Physiks must be used. Providing this condition is met, German Physiks will pay the cost of shipping the loudspeakers back to the customer.

German Physiks will not pay any shipping costs if:

- a. Loudspeakers or parts are returned without a RA number
- b. No fault is found
- c. If the fault is judged to be due to misuse such as, but not limited to, burnt out voice coils and dents or scratches on driver diaphragms or cabinets.

Customers are responsible for all freight, duties and related shipping charges for loudspeakers returned for non-warranty repairs.

11. HOW TO CONTACT US

If you wish to get in touch with us please use the contact information shown below. Please note that our office hours are from 9.30 a.m. to 5.00 p.m. Monday to Thursday, excluding public holidays and that we cannot respond to enquiries outside of these hours. We recommend that where ever possible you contact us by email, as this will allow us to give your enquiry more consideration and thus provide a more detailed reply.

Address	DDD-Manufactur GmbH Gutenbergstraße 4 D-63477 Maintal GERMANY
Telephone	+ 49 61 09 50 29 823
Fax	+ 49 61 09 50 29 826
Email	service@german-physiks.com
Web	www.german-physiks.com

12. HRS 120 SPECIFICATIONS

Version	With DDD Titanium Driver	With DDD Carbon Driver
Impedance	4 ohms	4 ohms
Frequency Response	31 - 21,500Hz	29 - 24,000Hz
Power Handling Nominal Short term	100W 160W	110W 170W
Amplification required	Minimum 100W/4 ohms	
Cross over frequency	240Hz	
Cross over slopes DDD section Woofer section	12dB/octave electronic & 36dB/octave acoustic 12dB/octave electronic & 14dB/octave acoustic	12dB/octave electronic & 12dB/octave acoustic
High frequency adjustment	-2dB, flat, +2dB and 4dB centred at 8,000Hz	
Sensitivity	86.8dB for 1W at 1m	87.2dB for 1W at 1m
Operating principle	2 way speaker with 360° surround radiation using the DDD Bending Wave Converter	
Input connectors	1 set of binding posts	
Drivers	1 x Titanium DDD driver 1 x 8 inch woofer	1 x Carbon DDD driver 1 x 10 inch woofer
Dimensions	320mm W x 1,145mm H x 320mm D 12.6" W x 45.0" H x 12.6" D	
Weight	29.6kg 65.1lbs	29.7kg 65.3lbs
Warranty	5 years	

As part of our process of continually improving our products, we reserve the right to change specifications without notice

13. WARRANTY REGISTRATION

In order to register your purchase and obtain the full 5 year warranty, Please complete the form below within 7 days of purchase and return it by post together with a copy of the receipt of purchase to:

DDD-Manufactur GmbH
 Gutenbergstraße 4
 D-63477 Maintal
 GERMANY

Name	
Address	
Country	
Zip/Post Code	
Speaker Model	HRS 120
DDD Type <small>Delete as necessary</small>	Titanium / Carbon.
Serial Number <small>See label under speaker</small>	
Finish	
Date of Purchase	
Where Purchased	
Address	
Country	
Zip/Post Code	