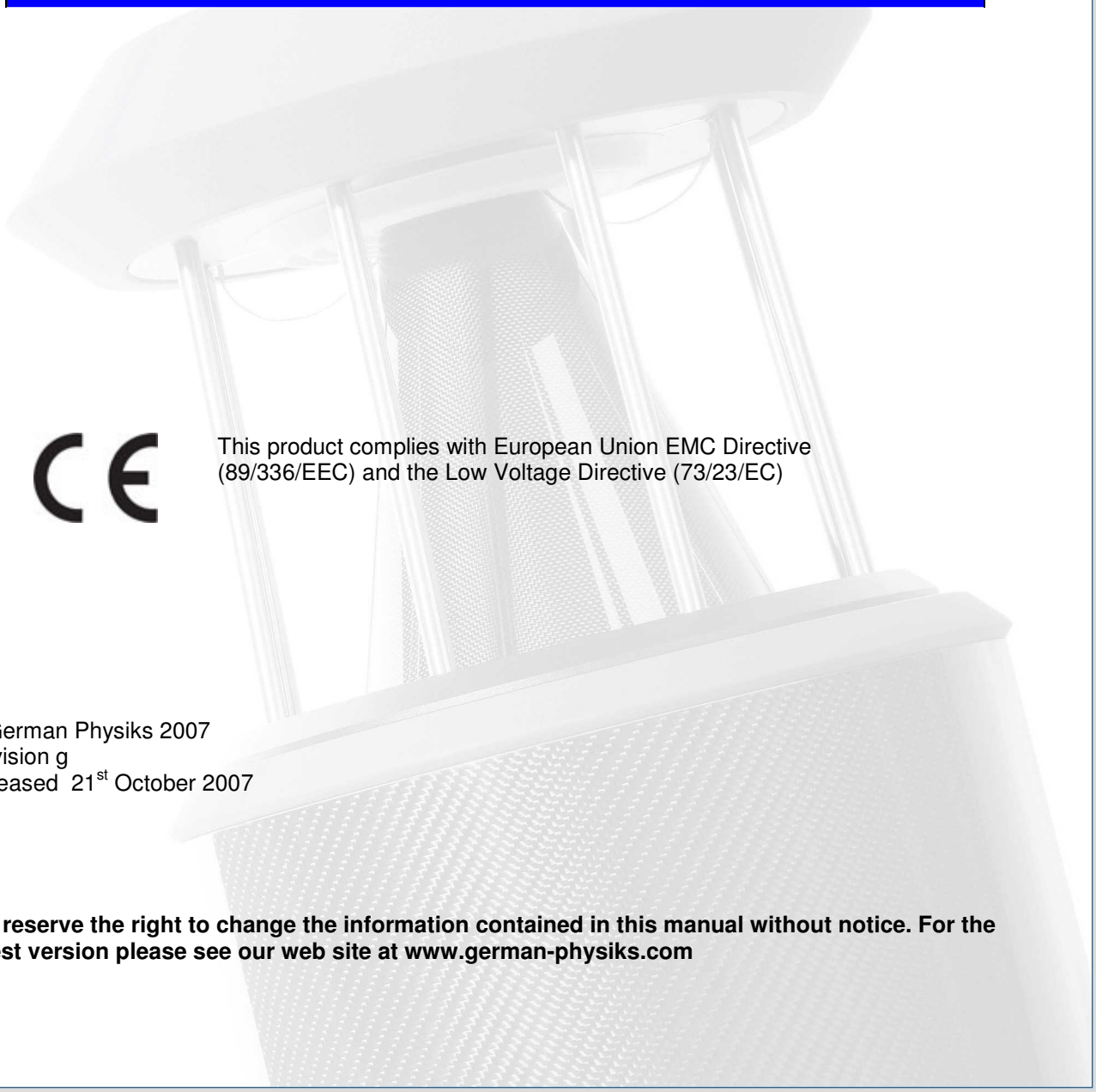
Troubadour 40 User Manual



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

Revision g
Released 21st October 2007

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1. INTRODUCTION

Thank you for selecting the German Physiks Troubadour 40 loudspeakers for your audio system. The design uses a single DDD driver and may be operated either full range where a compact high quality loudspeaker is required for a small room, or in conjunction with a sub-woofer where higher sound levels are required. The Troubadour 40 is entirely handmade and is built and tested by highly skilled technicians at our factory 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 you attempt to use the loudspeakers.

2. UNPACKING YOUR LOUDSPEAKERS

NOTE: When lifting the loudspeakers out of the packing, hold them around the base. Do not lift them by the DDD driver support pillars (see figure 3) as this may damage the driver.

The DDD drivers may be protected with clear film or cardboard covers. We recommend that these be left in place until the loudspeakers have been placed in their final location so as to guard against accidental damage during handling.

The Troubadour 40 comprises two loudspeaker modules and two crossover modules. The two loudspeakers are packed in one carton and the two crossovers and interconnecting cables are packed in a second carton. Before opening the cartons, please inspect them for damage. If you see any damage to the cartons, 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.

Please retain all of the packing as you will need this should it be necessary in the future to ship the loudspeakers. Should you need to return the loudspeakers to the factory, you must use the original packing. 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.

Use Figure 1 to identify the major components and confirm that the cartons contain the following items:

Item	Quantity	Description
1	2	Troubadour 40 loudspeakers
2	2	Troubadour 40 crossovers
3	2	Crossover cable
4	1	User manual

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

Troubadour 40

Crossover

Crossover cable

Figure 1. Troubadour 40 Major Components

There are two versions of the Troubadour 40. One is fitted with a titanium DDD driver and the other is fitted with a carbon fibre DDD driver. Each version has its own specific design of crossover. Please use figure 2 below to confirm that the correct version of the crossover has been supplied.

For titanium DDD driver

For carbon fibre DDD driver

Figure 2. Troubadour 40 Crossovers

3. PRINCIPLE FEATURES OF THE TROUBADOUR 40

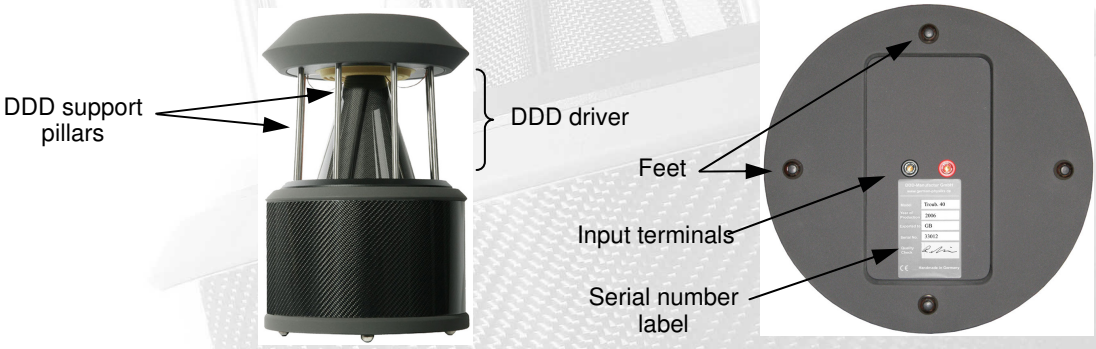

Figure 3. Principle Features of the Troubadour 40

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.

The Troubadour 40 is symmetrical, so either speaker may be use on the left or right side or the room.

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 speakers symmetrically in the room, i.e. the same distance from the centre line of the room and the same distance from the rear wall.

3. Avoid placing the loudspeakers similar distances from the side and rear 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 hardwood floor, 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

Stands: The Troubadour 40 may be placed on stands or on a shelf. In either case please follow the recommendations below regarding distances from the rear and side walls

If stands are to be used, you should aim to have the centre of the DDD driver approximately on the same level as your ears when you are seated in the listening position. In most cases this gives a suggested range of heights for stands of between 70 and 80 cm (27.6” to 31.5”). The Troubadour 40 has 4 feet on its base plate. These are located on a 10.5 cm radius from the centre of the base and are positioned at the 3, 6, 9 and 12 0’ clock positions. To allow a safe margin for the feet and prevent them slipping over the edge of the top of the stand, the stand top plate should be no smaller than 23 cm wide by 23 cm deep (9” by 9”).

Distance from rear wall: We recommend that you start with the loudspeaker positioned 1.5m from the rear wall. As you move the loudspeaker 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 rear wall. The Troubadour 40 should not be placed closer that 1m from the rear wall. If the speaker is too close to the rear 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. Be sure to choose a recording that itself has an even bass response.

Distance from side wall: We recommend that the distance between the centres of the loudspeakers be 2/3 of the distance of the loudspeakers from the listening point. Moving the speakers further apart will degrade the stereo image.

Avoid placing the loudspeakers closer than 1m from the side walls, as the early reflections will degrade the stereo image.

Positioning the loudspeakers 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 4 gives a general guide to loudspeaker positioning and the location of the listening position. Note how the recommended listening position varies with the separation between the loudspeakers. Because the Troubadour 40 is omni directional, 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. The German Physiks logo on top of the loudspeaker indicates the front of the unit.

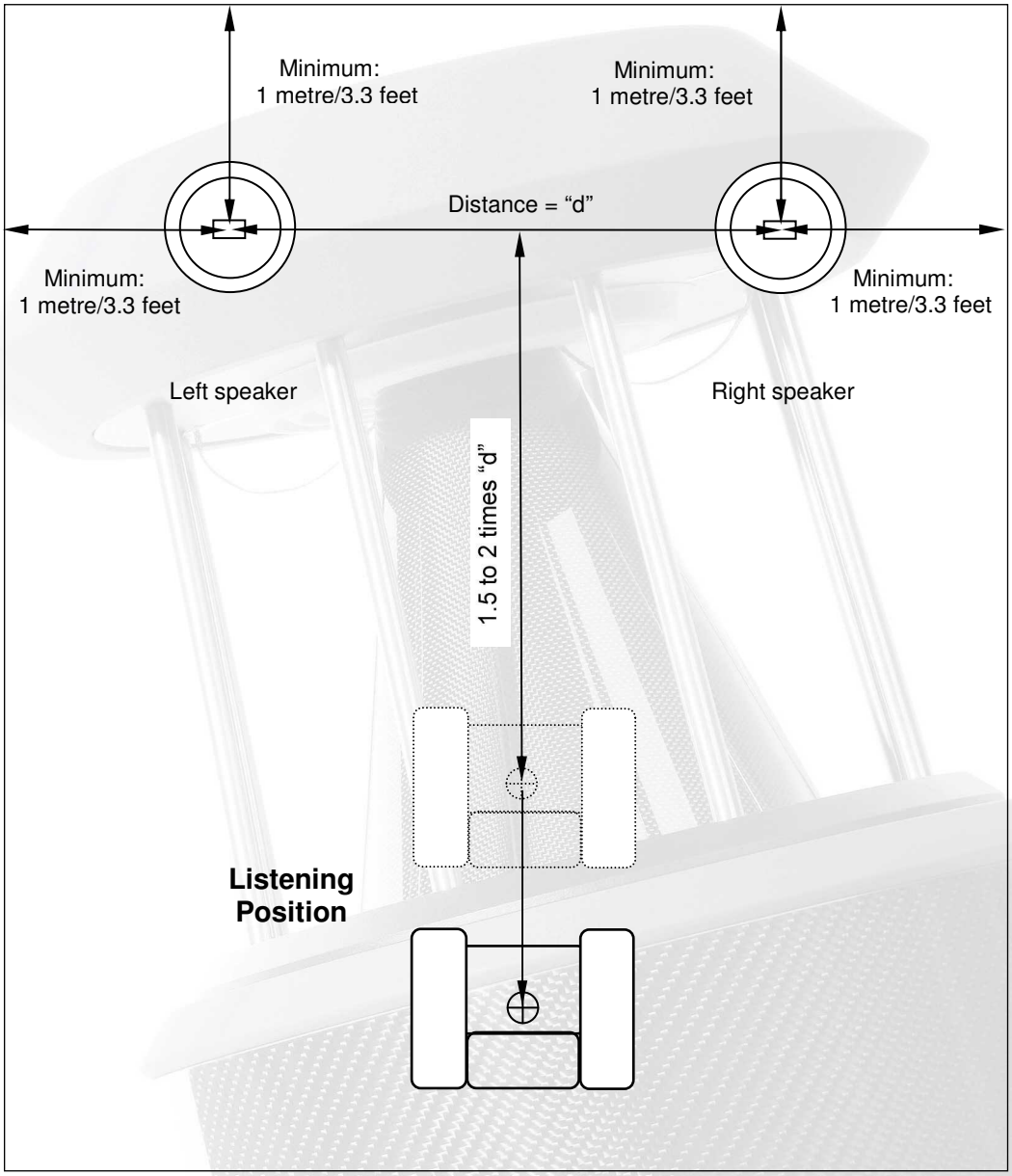

Figure 4. Listening Room Arrangement

5. CONNECTING YOUR LOUDSPEAKERS

NOTE: The Troubadour 40 must be used with the crossover supplied. Do not attempt to drive it directly from your amplifier as this may result in damage the DDD driver.

There are two versions of the Troubadour 40 and the method of connection varies slightly. Both versions have a high frequency level adjustment control to allow the user to compensate for variations in the listening room high frequency absorption characteristic. They also both have a low frequency roll-off control. This is used when the loudspeaker is used in conjunction with a sub woofer and allows the loudspeaker's low frequency limit to be set to match the upper limit of the sub-woofer.

The input terminals and both controls are located on the external crossover. A detailed description of the two versions of the crossover is given below.

Titanium DDD Version

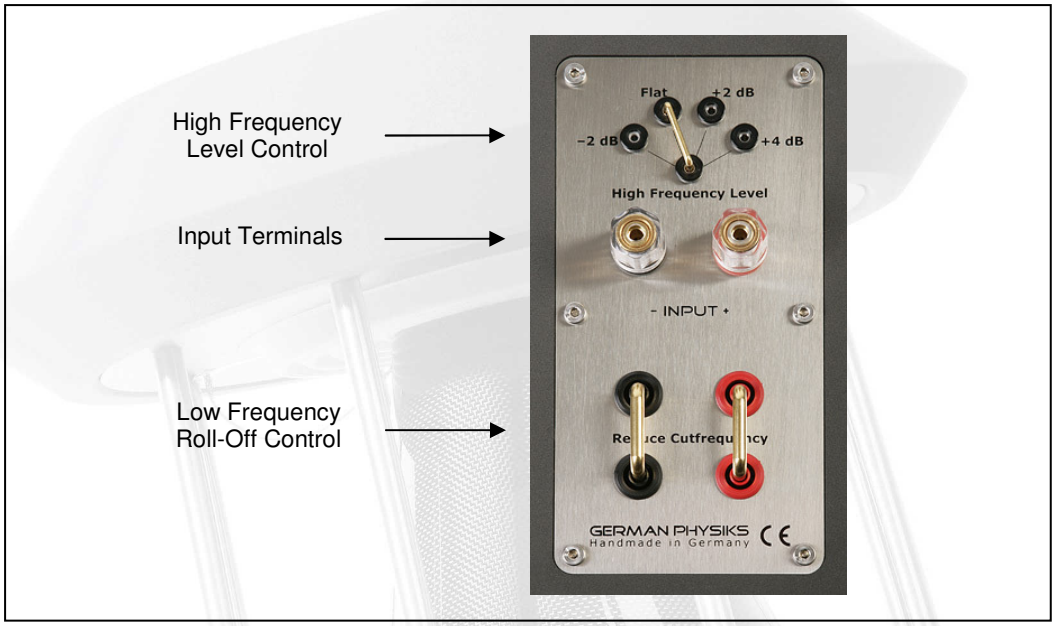

Figure 5. Input Terminals and Crossover Adjustments for Titanium DDD Troubadour 40

High Frequency Level Control
4 settings are provided: -2dB, Flat, +2dB and +4dB and the centre frequency is 8,000Hz. To adjust the control, pull the jumper out and then push it back into the appropriate pair of sockets.

Low Frequency Roll-Off Control
This adjusts the low frequency roll-off. When using the Troubadour 40 in full range mode fit both jumpers. When using the loudspeaker in conjunction with a sub-woofer, fit the jumper(s) that give a low frequency roll-off that is the closest match to the upper frequency limit of the sub-woofer being used. The jumper settings are shown below:

Jumper Setting	Roll Off
Red and black socket jumpers fitted	240Hz
Red socket jumper only fitted	260Hz
Black socket jumper only fitted	300Hz
No jumpers fitted	320Hz

Carbon Fibre DDD Version

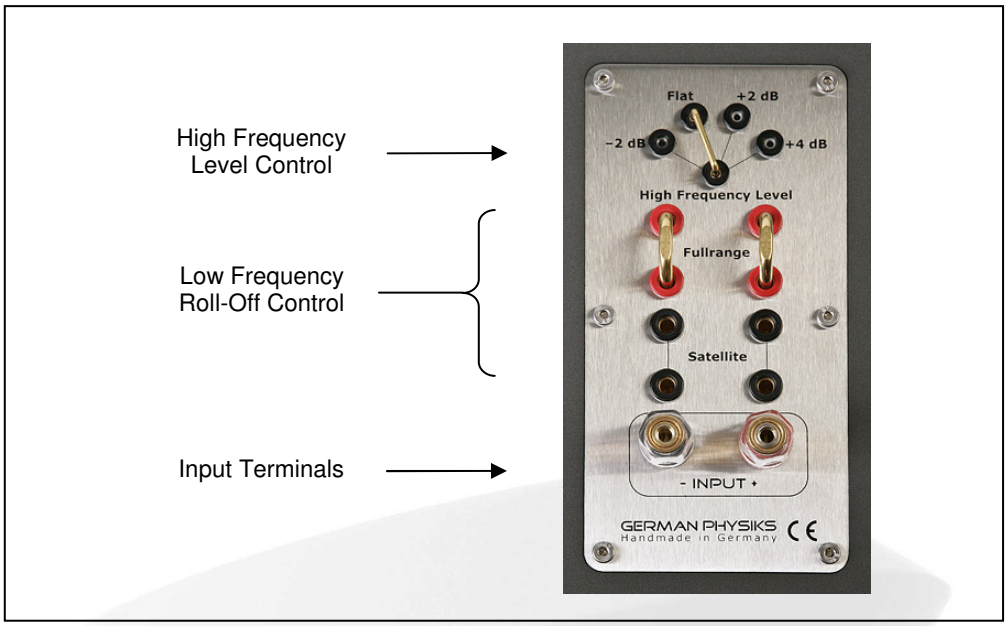

Figure 6. Input Terminals and Crossover Adjustments for Carbon Fibre DDD Troubadour 40

High Frequency Level Control
4 settings are provided: -2dB, Flat, +2dB and +4dB and the centre frequency is 8,000Hz. To adjust the control, pull the jumper out and then push it back into the appropriate pair of sockets.

Low Frequency Roll-Off Control
This adjusts the low frequency roll-off. When using the Troubadour 40 in full range mode fit both jumpers in the red sockets. When using the loudspeaker in conjunction with a sub-woofer, fit both jumpers in the black sockets. The roll-off frequencies are shown below:

Jumper Setting	Roll Off
Both red socket jumpers fitted	80Hz
Both black socket jumpers fitted	270Hz

Input Terminal Connections

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

Use the cable supplied to connect the input sockets on the base of the Troubadour 40 (figure 3) to the output sockets on the side of the external crossover. Ensure that the two red sockets are connected together and that the two black sockets are connected together. Connect the amplifier to the input terminals on the top of the external crossover. Do not connect the amplifier directly to the Troubadour 40 as this may result in damage to the DDD driver which will not be covered under the warranty.

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 cable – the latter is preferred. We do not recommend the use of bare wire to connect to the loudspeaker terminals. This produces an inferior connection that will degrade as the bare conductors become tarnished.

An amplifier capable of delivering at least 40W rms into 4 ohms per channel should be used for each loudspeaker. Do not switch the amplifier on until the DDD covers have been removed as shown in section 6.

6. REMOVING THE DDD SHIPPING COVERS

If your Troubadour 40s are 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 7. Do not cut in the way shown in figure 8, as there is a danger that you will cut the DDD driver diaphragm.

Figure 7. The Correct Way to Remove the DDD Driver Cover

Figure 8. The Wrong Way to Remove the 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 or crossovers.

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

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

NEVER attempt to clean the loudspeakers or crossovers 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.

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 in this manual within 7 days of purchase. They must also return a copy of the receipt issued at the time of purchase. 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 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. 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.

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

12. TROUBADOUR 40 SPECIFICATIONS

Version	With DDD Titanium Driver	With DDD Carbon Driver
Impedance	2.8 ohms at 1,300Hz	2.8 ohms at 2,100Hz
Frequency Response **With crossover**	240/320Hz – 21,500Hz Lower frequency limit depends on crossover settings	80/270Hz- 24,000Hz
Without crossover	120 -21,500Hz Maximum input power 20W	70 – 24,000Hz Maximum input power 50W
Power Handling **With crossover** **Nominal** **Short term**	 90W rms 120W peak	 120W rms 200W peak
Without crossover **Nominal** **Short term**	 20W rms 80W peak	 50W rms 120W peak
Amplification required	Minimum 40W/4 ohms	
High frequency adjustment	-2dB, flat, +2dB and 4dB centred at 8,000Hz	
Low frequency adjustment	240, 260, 300 and 320Hz	80 and 270Hz
Sensitivity	84.5dB for 1W at 1m	84.8dB for 1W at 1m
Operating principle	Full range satellite 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 Carbon DDD driver
Dimensions		
Speaker	400mm high x 240mm diameter 15.75" high x 9.45" diameter	
Crossover	230mm W x 153mm H x 230mm D 9.05" W x 6.00" H x 9.05" D	
Weight **Speaker**	11.0kg 24.2lbs	
Crossover	3.9kg 8.6lbs	
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	**German Physiks Troubadour 40**
DDD Type Delete as necessary	**Titanium/Carbon**
Serial Number See label under speaker	
Finish	
Date of Purchase	
Where Purchased	
Address	
Country	
Zip/Post Code	