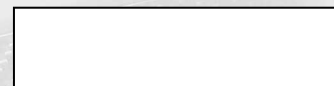


PQS-100 Plus User Manual



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 PQS-100 Plus loudspeakers for your audio system. The PQS-100 Plus is a 2 way design that uses a single DDD driver coupled with a downward firing sub-woofer. It is intended for use in both 2 channel and high-end home theatre systems. It is designed to be mounted on the supplied PQS-Plus stands. The PQS-100 Plus 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 attempting to use the loudspeakers.

2. UNPACKING YOUR LOUDSPEAKERS

NOTE: When lifting the loudspeakers out of the packing, hold them by the upper plate. Do not lift them by the DDD support pillars (see figure 1) as this may damage the driver.

The DDD drivers may be protected with a clear film cover. This should be left in place until the loudspeakers have been placed in their final location, so as to guard against accidental damage during handling.

The loudspeakers are packed in separate cartons. The stands are packed together in a third carton. Before opening the cartons, please inspect them for damage. If you see any damage, contact the supplying audio dealer immediately and give them a full description of the damage. Do not attempt to unpack the cartons 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. 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.

Please confirm that the cartons contain the following items:

PQS-100 Plus Cartons 1 and 2

Item	Quantity	Description
1	1	PQS-100 Plus Loudspeaker
2	1	PQS-100 Plus User Manual – with one loudspeaker only

PQS-Plus Stand Carton

Item	Quantity	Description
1	2	PQS-Plus Stands Bases
2	2	PQS-Plus Stand Back Panels
3	1	Box of accessories containing:
	8 off	M4 x 12mm socket head screws
	2 off	M5 x 16mm socket head screws
	8 off	M5 x 40mm counter sunk head screws
	6 off	M8 x 50mm socket head screws
	2 off	Hex keys
	2 off	Speaker terminal plates
	1 off	Cleaning cloth

If any items are missing or damaged, please contact the supplying audio dealer immediately.

3. THE PRINCIPLE FEATURES OF THE PQS-100 PLUS

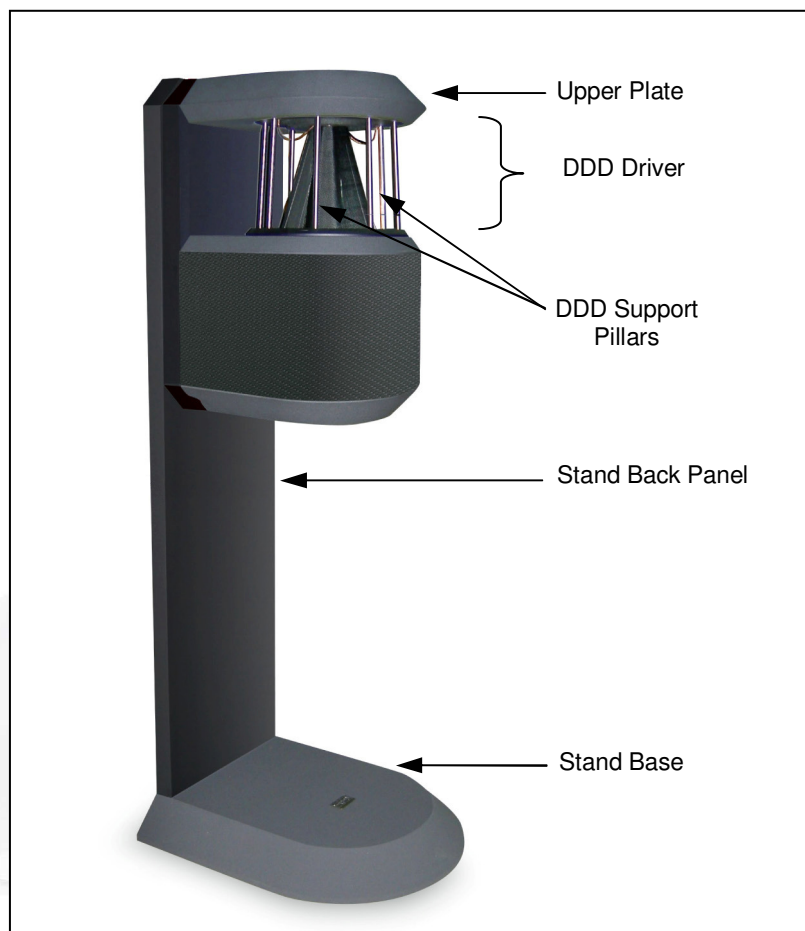


Figure 1. The Principle Features of the PQS-100 Plus

4. ASSEMBLING THE LOUDSPEAKER AND STANDS

NOTE: When tightening the stand screws, follow the directions provided. Over-tightening the screws may result in damage to the stand which will not be covered by the warranty.

1. Place one of the stand bases on the floor with the German Physiks logo facing upwards as shown in figure 2.

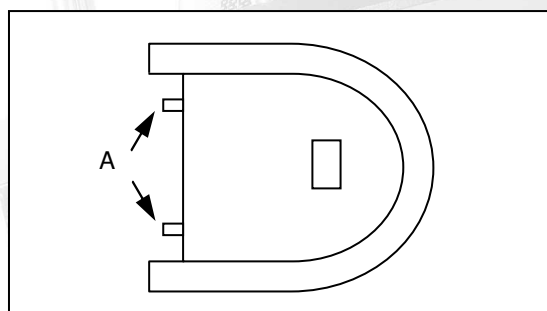


Figure 2. Stand Base

2. Take one of the stand back panels and hold it vertically as shown in figure 3i. Carefully insert the stand back panel into the cut-out in the rear of the stand base, ensuring that the two locating dowels in the base (A, figure 2) fit into the matching holes in the stand back (A, Figure 3i).

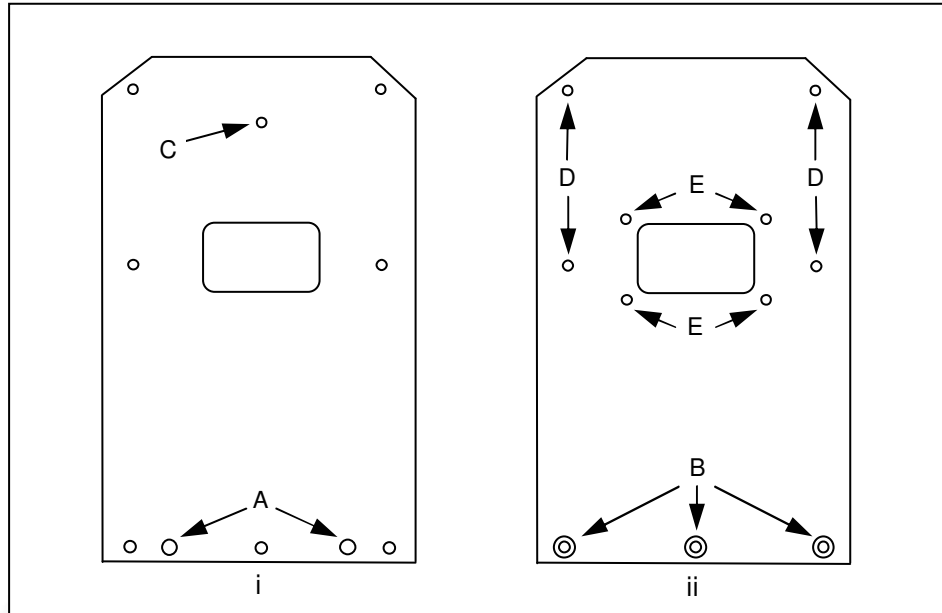


Figure 3. PQS-Plus Stand Back Panel

3. Insert a M8 x 50mm socket head screw into each of the three recessed holes on the bottom edge of the stand back panel (B, figure 3ii). Using the appropriate hex key, tighten these screws until the two parts are pulled together and then tighten one further **half turn**.

4. Fit a M5 x 16mm socket head screw into hole C on the stand back panel, Fig 3i and screw it all the way in by hand. Tighten one further **quarter turn** using the appropriate hex key. This is the loudspeaker suspension screw.

5. Pick up a PQS-100 Plus by the upper plate and holding it with the rear face away from you, fit the key-hole plate in the rear face of the loudspeaker figure 4, over the loudspeaker suspension screw you have just fitted – C, figure 3i.

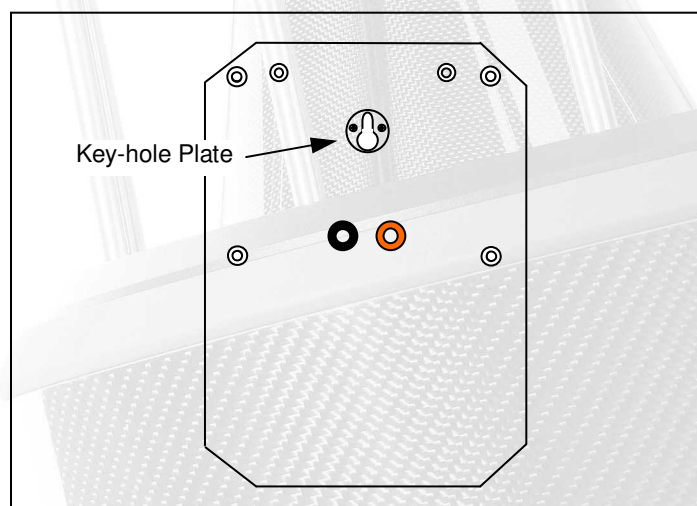


Figure 4. PQS-100 Plus Rear Face

NOTE: Make sure that the key-hole plate is properly engaged with the suspension screw before you let go of the loudspeaker.

6. Insert a M5 x 40mm counter sunk head screw into each of the four loudspeaker locking screw holes on the rear face of the stand back panel, D, figure 3ii. Ensure that the screws are properly engaged with the inserts on the rear face of the loudspeaker. Tighten using the appropriate hex key until the screw head is flush with the surface of the stand back panel and then tighten a further **half turn**.

7. Take a terminal plate and connect the red banana plug to the red socket on the back of the loudspeaker and the black banana plug to the black socket on the back of the loudspeaker as shown in figure 5.



Figure 5. Loudspeaker Terminal Plate

8. Line up the four holes in the terminal plate with the four holes marked E in figure 3ii and insert a M4 x 12mm socket head screw into each hole. Tighten each screw using the appropriate hex key until the terminal plate is pulled securely against the back of the stand.

5. 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

The base of the PQS-Plus stand is fitted with four spikes of the type shown in figure 6. The spikes are supplied with a special washer, A, figure 6. This is flat on one side and has a recess machined into the other side. It is intended to be placed under the spike, flat side down and used where the user does not want the spike to come into direct contact with the floor, for example when the loudspeakers are to be placed on a polished wooden floor. When the washer is used, make sure that the tip of the spike is located in the centre of the recess.

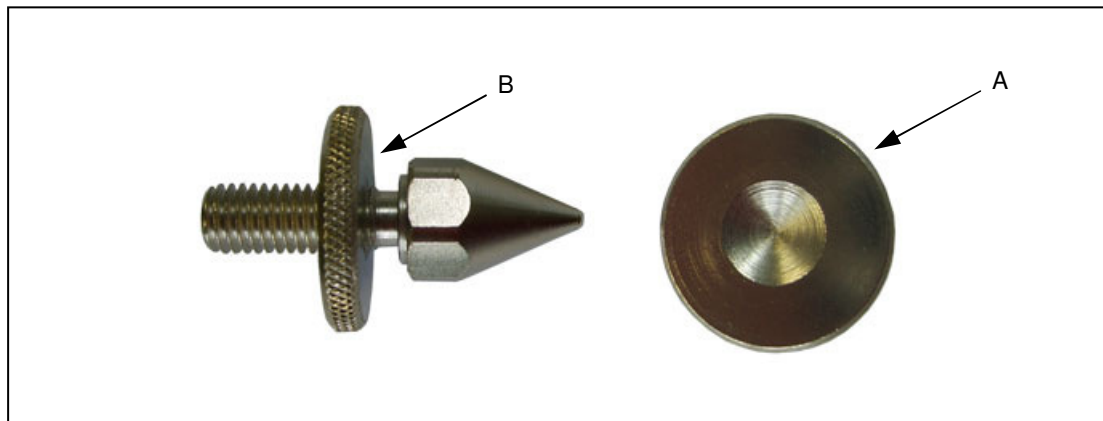


Figure 6. Spike and Washer

The easiest way to adjust the spikes is to remove the loudspeaker from the stand and place it somewhere it cannot be damaged.

Set the stands in their initial position in the listening room. Please refer to figure 7 for guidance on positioning. Place a soft clean blanket next to the stand and lay it on its side on the blanket. Set the two spikes at the back and the left hand front spike to protrude approximately the same amount - within 1 or 2mm. If the spike is stiff use a 13mm spanner to turn it. The spike should be screwed in about 10mm to ensure it is firmly located in the stand base. Tighten the locking nuts (A, figure 6) **by hand**. Set the right hand front spike to protrude the same amount, but do not tighten the locking nut. Set the stand back on its spikes.

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

1. **If the stand can be rocked in the 10 o'clock to 4 o'clock direction**, lean the stand to the left and screw **out** the right hand front spike by the amount of movement you saw. Set the stand back upright and repeat the process until it is sitting squarely on all four spikes. Lean the stand to the left again and lock the nut on the right front spike (A, figure 6), taking care not to change the spike's setting. Lock the spike nut by hand. Do not use excessive force, as this may damage the loudspeaker base plate.
2. **If the stand can be rocked in the 2 o'clock to 8 o'clock direction**, lean the stand to the left and screw **in** the right hand front spike by the amount of movement you saw. Set the stand back upright and repeat the process until it is sitting squarely on all four spikes. Lean the stand to the left again and lock the nut on the right front spike (A, figure 6), taking care not to change the spike's setting. Lock the spike nut by hand. Do not use excessive force, as this may damage the loudspeaker base plate.

Listening Room Layout

The following points will help you to 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 (wood or tile), 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.

Placement

Distance from the Front Wall

Initially, we recommend that the loudspeakers be positioned against the front wall and set facing directly down the room as shown in figure 7. They may be set as much as 2m from the front wall. The closer the loudspeakers are set to the front wall, the stronger the bass will be. The actual distance chosen will depend on the type of bass that the listener requires.

The distance of the listening position from the loudspeakers should be 1.5 to 2 times the distance between the centres of the loudspeakers. Moving the loudspeakers further apart will degrade the stereo image. The best setting for each room will be found by experiment. It is not necessary to toe-in the loudspeakers towards the listening position. If the bass level is excessive try moving the loudspeakers progressively away from the wall. Aim to find a position that provides an even bass response, combined with a well focussed stereo image when you are seated at the listening position.

Distance from the Side Wall

Avoid placing the loudspeakers closer than 0.5m from the side walls, as 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 combined with an even bass when you are seated at the listening position.

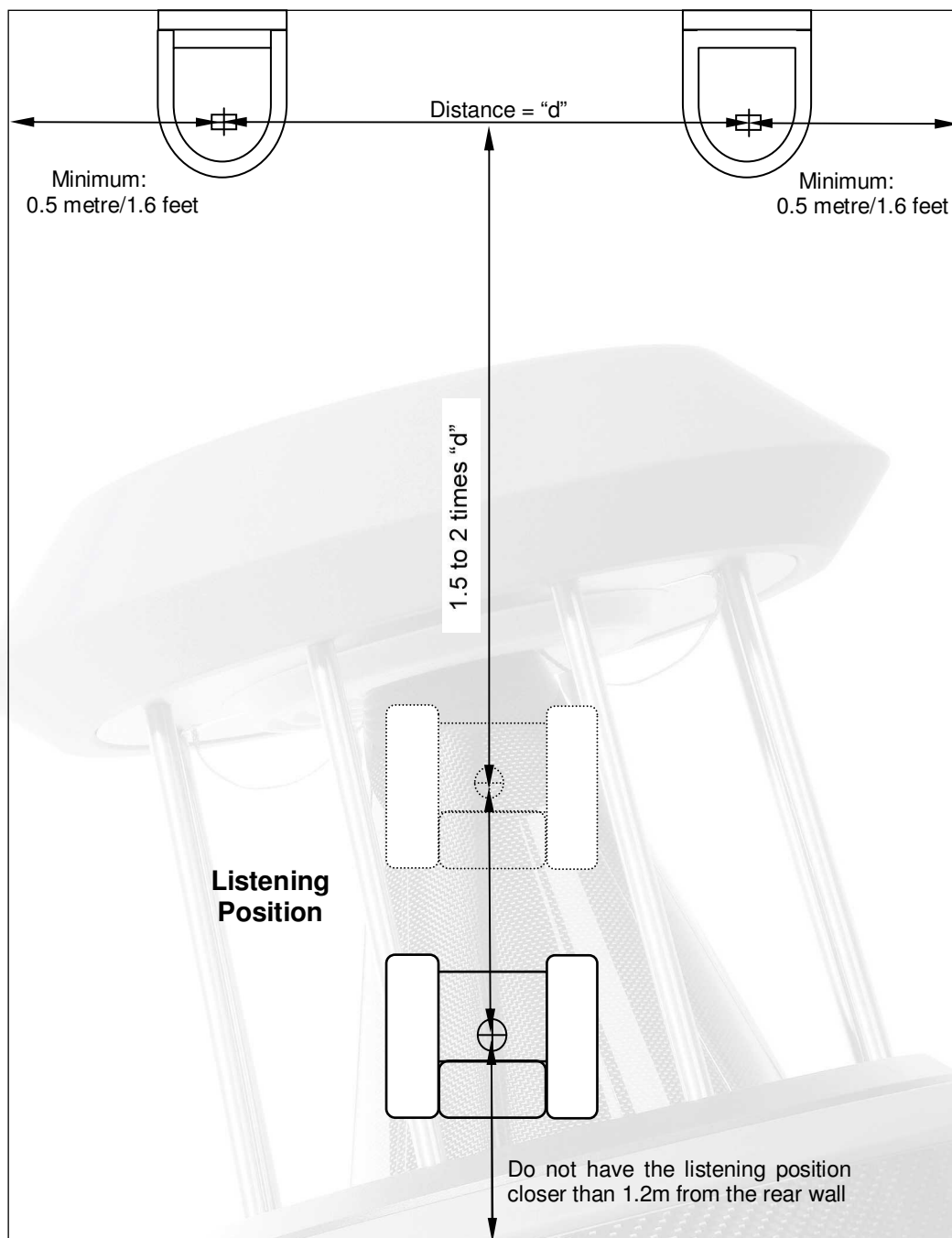


Figure 7. Listening Room Arrangement

6. CONNECTING YOUR LOUDSPEAKERS

NOTE: An amplifier capable of delivering at least 70W into 4 ohms must be used for each loudspeaker.

The input terminals are located on a panel fitted to the back of the stand. Connect the amplifier output terminal marked red or positive, to the red or positive input terminal of the loudspeaker and the amplifier output terminal marked black or negative, to the black or negative input terminal of the loudspeaker.

Loudspeaker Cables

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 loudspeaker 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 further degrade as the bare conductors become tarnished.

NOTE: Do not switch the power amplifier on until the DDD shipping covers have been removed as described in section 7.

7. REMOVING THE DDD DRIVER SHIPPING COVERS

NOTE: Do not touch the DDD driver diaphragms.

The DDD drivers are normally shipped with a protective film covering. This should now be removed. The film should be carefully peeled off by hand. Do **not** use a knife or any other tool.

8. 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. Initially the sound may seem harsh. Please do not be concerned. The sound will become more relaxed and smooth as the break in progresses. The music used for the break in should be dynamic in order to properly exercise all the components of the loudspeakers.

For the first 10 hours play the loudspeakers 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 loudspeakers may be played at normal listening levels. The break in process will be complete after 200 to 300 hours.

9. CARE OF YOUR LOUDSPEAKERS

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

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

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

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

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

10. WARRANTY

These 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. 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, whichever is greater.

Any unauthorised modifications or repairs will invalidate the warranty. The warranty will also be invalidated if German Physiks determines that the loudspeakers have 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.

11. 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 can 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 information about the 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 event 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.

12. 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. PQS-100 PLUS SPECIFICATIONS

Impedance	5.6 ohms at 45Hz
Frequency Response	45Hz – 24,000Hz
Power Handling Nominal Short term	200W 320W
Amplification required	Minimum 70W/4 ohms
Crossover frequency	120Hz
Crossover slopes DDD section Woofer section	6dB/octave electronic & 18dB/octave acoustic 12dB/octave electronic & 18dB/octave acoustic
Sensitivity	86dB for 1W at 1m
Operating principle	2 way loudspeaker with 360° surround radiation using the DDD Bending Wave Converter.
Input connectors	1 set of binding posts
Drivers	1 x Carbon Fibre DDD driver 1 x 6 inch woofer
Dimensions Loudspeaker	267mm W x 510mm H x 310mm D 10.5" W x 20.0" H x 12.2" D
PQS Plus Stand	325mm W x 1,100mm H x 393mm D 12.8" W x 43.3" H x 15.5" D
Weight Loudspeaker PQS Stand	21.0kg 46.2lbs 10.2kg 22.4lbs
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	
Model	PQS-100 Plus
Serial Number See label under speaker	
Finish	
Date of Purchase	
Where Purchased	
Address	
Country	
Zip/Post Code	