

Limited 11 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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Revision a
Released December 2010

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1. INTRODUCTION

Thank you for selecting the German Physiks Limited 11 loudspeakers for your audio system. The Limited 11 is a 2-way design using a single carbon fibre DDD driver and a high performance woofer. It 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, as it will enable you obtain the best performance from them.

2. UNPACKING YOUR LOUDSPEAKERS

NOTE: When lifting the loudspeakers out of the packing hold them around the sides of the cabinet. Do not lift at the end of the cabinet with the spikes, as you may damage the woofer (figure 3).

Do not lift the loudspeakers by the DDD driver support pillars (figure 4) as this may damage the driver.

Do not remove the spikes as the woofers may be damaged if the loudspeaker is stood up without these fitted.

Each Limited 11 weighs approximately 29kg (64lbs) and should not be lifted by one person alone. Always have help when lifting a loudspeaker.

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 Limited 11 is supplied with each loudspeaker packed separately in a double carton. This must be kept horizontal as shown in figure 1. Before opening the cartons, please inspect them 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:

NOTE: When cutting the sealing tape on the inner and outer cartons make sure that the cutter blade does not penetrate more than 1cm into the carton.

1. Place the carton upright as shown in figure 1 and carefully cut the sealing tape.

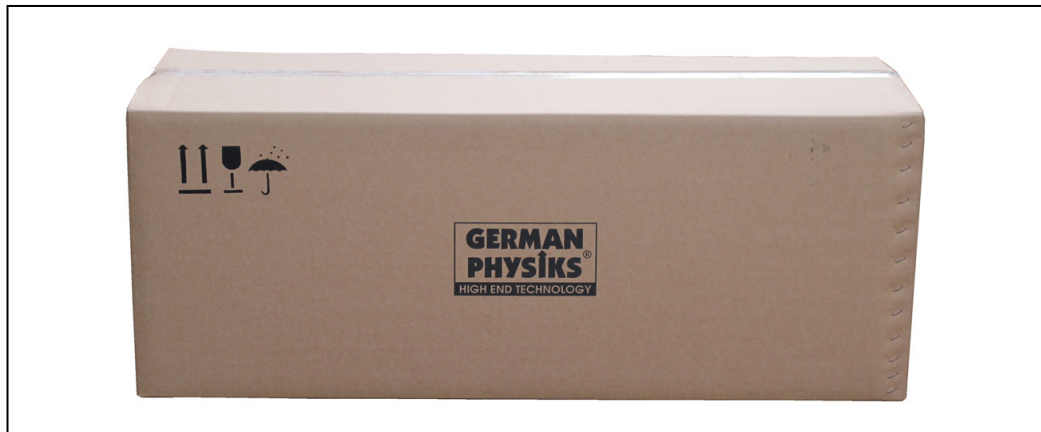


Figure 1. Limited 11 Shipping Carton

2. Open the flaps on the outer carton then carefully cut the sealing tape on the inner carton.
3. Open the flaps on the inner carton and remove the three foam packing pieces B and C in figure 2.

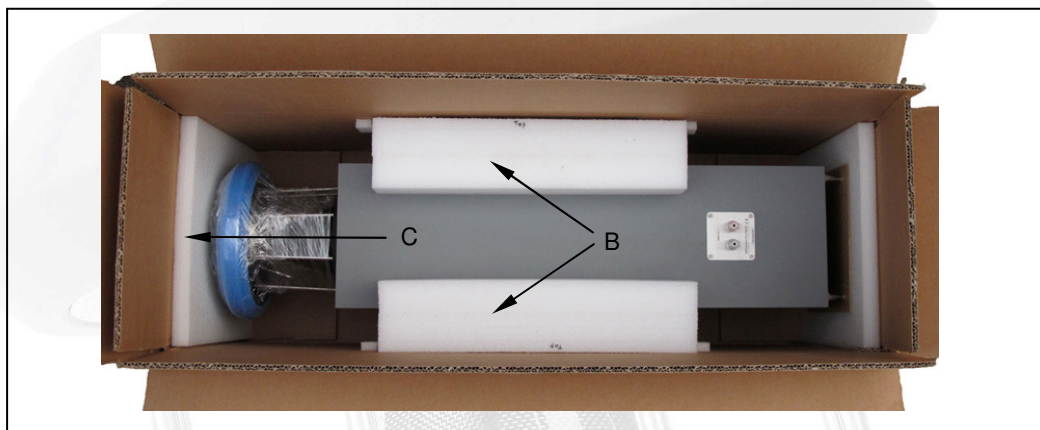


Figure 2. Limited 11 Shipping Carton

4. Lift the loudspeaker out of the box by supporting it under the sides of the cabinet and stand it on its spikes. Do not lift by the DDD driver – see figure 4. When lifting the loudspeaker from the vertical is necessary to place one hand under the base of the loudspeaker. To avoid damaging the woofer, ensure that you only support the base of the loudspeaker by the underside of the cabinet - see figure 3.



Figure 3. Limited 11 Woofer

Please confirm that the cartons contain the following items

Item	Quantity	Description
1	2	Limited 11 Loudspeakers
2	1	Limited 11 User Manual
3	2	Cleaning Cloths
4	8	Spike Support Feet
5	8	Self adhesive felt pads

If any items are missing, or show 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.

3. THE PRINCIPLE FEATURES OF THE LIMITED 11

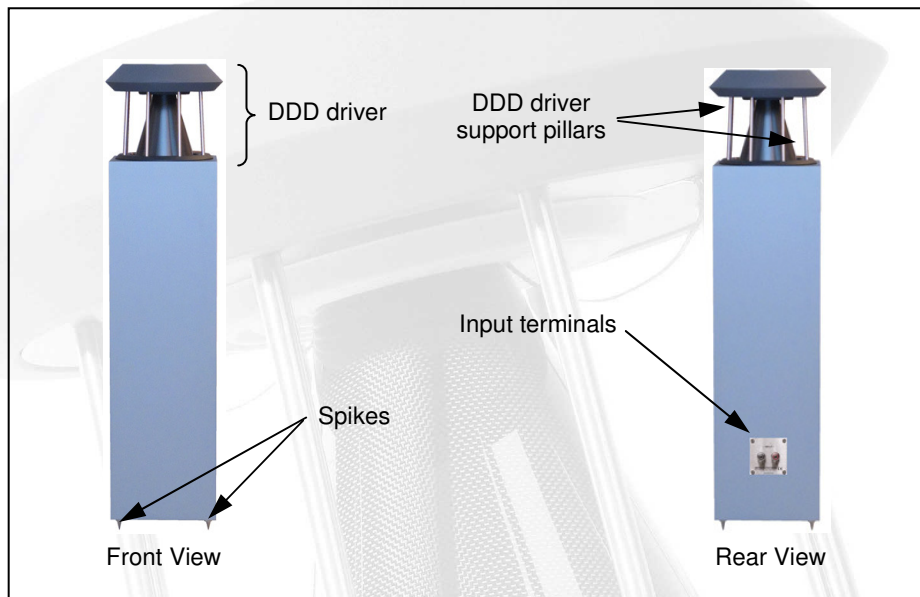


Figure 4. Principle Features of the Limited 11

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 spikes should only be adjusted by hand. The use of any tool may damage the cabinet.

Adjusting the Spikes

The spikes are supplied with a special foot, C, figure 5. 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. Self-adhesive felt pads are supplied which may be fixed to the flat side of the foot to give further protection from scratches. They also make it easier to move the loudspeaker. When the foot is used, make sure that the tip of the spike is located in the centre of the recess as shown in figure 6.

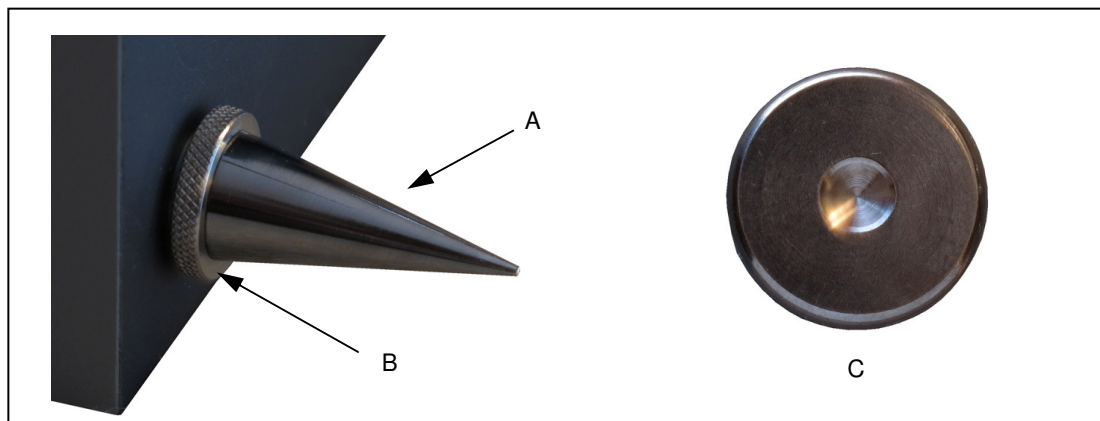


Figure 5. Spike with Locking Nut and Foot (shown enlarged)

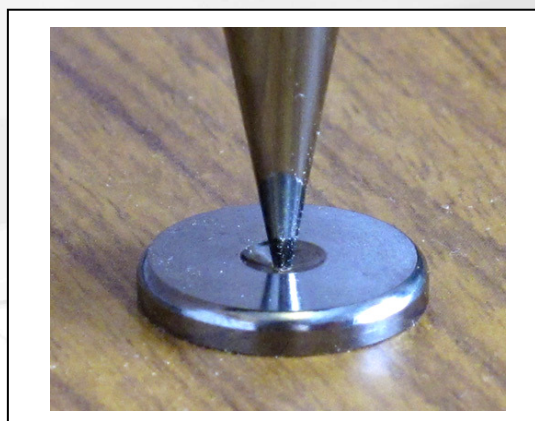


Figure 6. Correct Positioning of Foot

Set the loudspeakers in their initial position in the listening room. Please refer to figure 7 for guidance on positioning. Screw all the spikes fully in. The spikes should turn easily by hand if the loudspeaker is tilted slightly to take the weight off while they are being adjusted.

To check that the stand 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. Set the loudspeaker back upright and repeat the process until it is sitting squarely on all four spikes. The lock-nut (B figure 5) can now be tightened up against the base of the loudspeaker by hand.
- 2. If the loudspeaker can be rocked in the 2 o'clock to 8 o'clock direction**, lean the loudspeaker to the right and screw **out** the left hand front spike by the amount of movement you saw. Set the loudspeaker back upright and repeat the process until it is sitting squarely on all four spikes. The lock-nut (B figure 5) can now be tightened up against the base of the loudspeaker by hand.

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 helpful 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.
6. If the room has acoustic panels or other room treatments try the initial set-up with these removed. The Limited 11 being an omnidirectional loudspeaker interacts with the room in a very different way than conventional designs and it relies on a certain amount of reflection off the walls to work properly. Excessive absorption prevents the formation of good stereo images and can also lead to an imbalanced frequency response. Only re-introduce the treatments if listening shows they are necessary, for example to treat boominess and do so in stages, not all at once.

Loudspeaker Placement

Every room is different so we cannot give hard and fast rules for where the loudspeakers should be placed. The instructions below provide a useful technique for finding the best position. The key is to be prepared to experiment and let your ears be your guide. Don't make changes too quickly. Allow yourself time to listen properly each time a change is made. If you are tired or getting frustrated, you will not be able to make good judgements about what you are hearing. Be prepared to try later when you are feeling fresh and have plenty of time.

Marking loudspeaker positions on the floor with masking tape and making notes of how each position sounds can be helpful, as this will allow you to go back and reevaluate earlier results. Don't expect to find the best position for the loudspeakers until they have been fully run in.

Distance from the Front Wall

We recommend that you start with the loudspeakers positioned about 1.5m from the front wall. Use figure 7 to determine the distance between the speakers. Listen to a piece of music that you know has clean, deep bass. Move your listening position within the range shown in the diagram to find the best bass and stereo imaging. Move the loudspeakers back by say 15cm and readjust your listening position for the best sound as before. If the sound is worse move the loudspeakers slightly forward. If it is better, try moving them back another 15cm. Use this technique, with appropriate size movements, to home in on the position that provides a deep and even bass response, combined with the best defined and most realistic stereo image.

As you move the loudspeakers closer to the front wall, the level of the bass response will increase. The converse will be true as you move the loudspeakers away from the front wall. The Limited 11 should not be placed closer than 1m from the front wall. If the loudspeakers are 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.

Distance from the Side Wall

Moving the loudspeakers closer to the sidewalls will increase the bass response. If you move the loudspeakers closer to the sidewalls, make the appropriate adjustment to the listening position. We do not recommend placing the loudspeakers closer than 1m from the sidewalls, as the early reflections will degrade the stereo image. Positioning the loudspeakers too close to the sidewalls will also lead to an uneven bass response.

If you change the distance to the sidewalls, listen to the loudspeakers a little further forward and a little further back to confirm that the distance to the front wall is the optimum.

Aim to find a position that provides an even bass response, combined with the best defined and most realistic stereo image when seated at the listening position.

Because the Limited 11 is an omnidirectional loudspeaker, there is no need to adjust the toe-in angle. The loudspeakers should always be set with the front of the loudspeakers facing down the room.



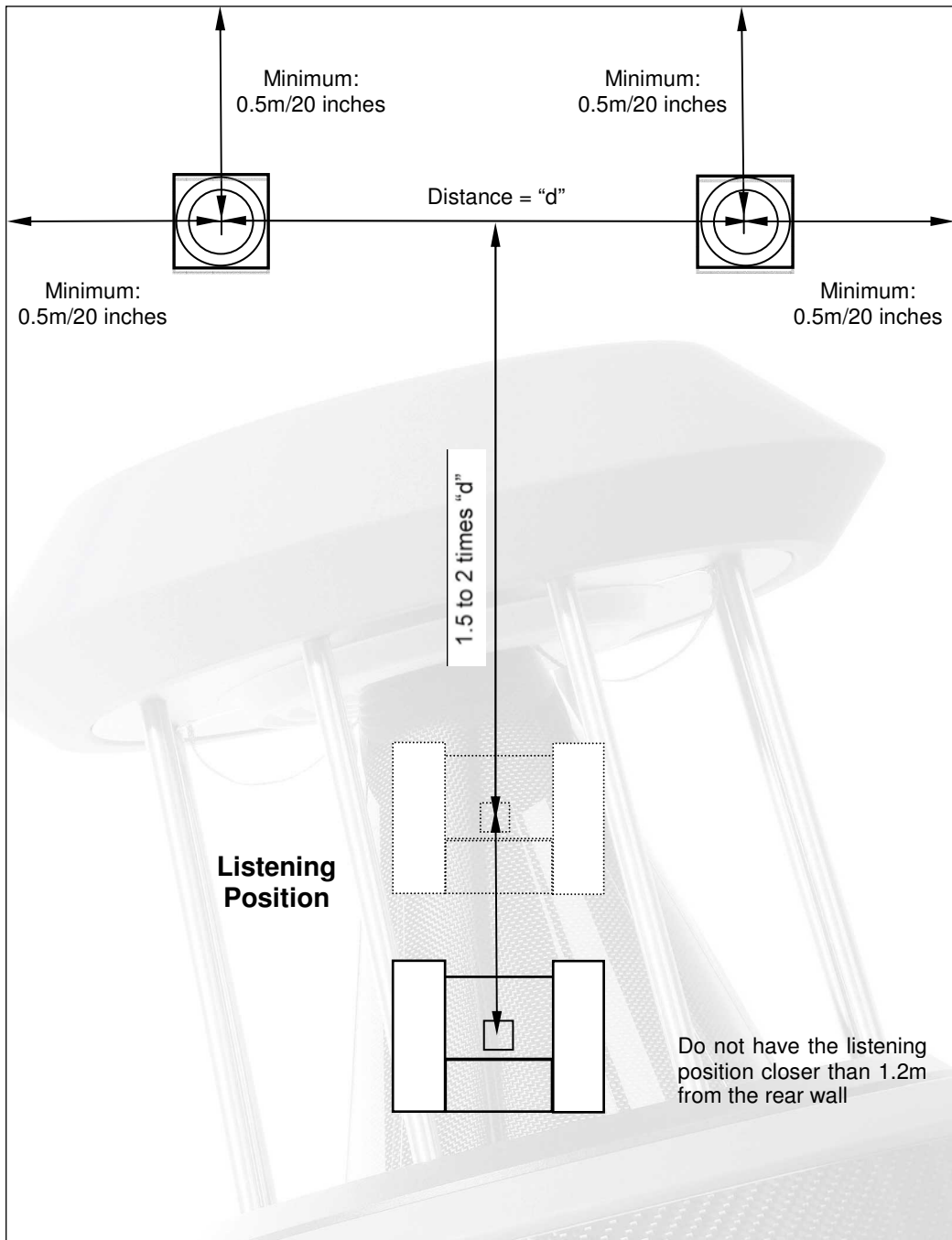


Figure 7. Listening Room Arrangement

5. CONNECTING YOUR LOUDSPEAKERS

NOTE: An amplifier capable of delivering at least 90W into 4 ohms per channel should be used for each loudspeaker.

Always tighten the speaker terminals by hand. The use of a tool may cause damage.

The input terminals are located on a panel on the back of the cabinet (figure 4). These can accept spade terminals, banana (5mm) plugs or bare cable.

Loudspeaker Cables

We recommend that you use loudspeaker cables terminated with high quality banana plugs, such as the Shark plug shown below.



Figure 8. Recommended Loudspeaker Cable Termination

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 driver shipping covers have been removed as shown in section 6.

6. REMOVING THE DDD SHIPPING COVERS

NOTE: Do not touch the DDD driver diaphragms.

The DDD drivers may be covered with a layer of clear film to protect them whilst in transit. This should now be removed. The film should be peeled off by hand. Do **not** use a knife.

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. 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.

8. 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.

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 fingerprints 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 your local German Physiks dealer, national distributor or direct from German Physiks.

9. 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 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 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.

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 information about the 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 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.

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 wherever 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. LIMITED 11 SPECIFICATIONS

Impedance	4 ohms
Frequency Response	32 – 24,000Hz
Power Handling Nominal Short term	110W 170W
Amplification required	Minimum 90W/4 ohms
Crossover frequency	200Hz
Crossover slopes DDD section Woofer section	6dB/octave electronic & 18dB/octave acoustic 18dB/octave electronic & 18dB/octave acoustic
Sensitivity	88dB 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 20cm woofer
Dimensions	240mm W x 1,050mm H x 240mm D 9.5" W x 41.3" H x 9.5" D
Weight	28.9kg 63.7lbs
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

Alternatively you can email scans of the registration form and proof of purchase to us at:

registration@german-physiks.com

Name	
Address	
Country	
Zip/Post Code	
Model	Limited 11
DDD Type	Carbon Fibre
Serial Number <small>See label under input terminals</small>	
Date of Purchase	
Name of Dealer	
Address of Dealer	
Country	
Zip/Post Code	