

EUROLIVE P1020/P1220/P1220F/P1520/P2520/P1800S

User manual

A50-73029-00001

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www.behringer.com



Important Safety Instructions



 To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

 To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.


WARNING

THIS EQUIPMENT IS CAPABLE OF DELIVERING SOUND PRESSURE LEVELS IN EXCESS OF 90 dB, WHICH MAY CAUSE PERMANENT HEARING DAMAGE.



- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Be sure to mount your speakers on a solid, stable and level base or stand. Vibrating floors do not provide reliable support for speaker enclosures or stacks.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Only use attachments/accessories specified by the manufacturer.
- 10) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 11) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
 - 12) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
-  These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

Foreword



Dear Customer,
Welcome to the team of BEHRINGER users, and thank you very much for expressing your confidence in us by purchasing this PA loudspeaker.

Writing this foreword for you gives me great pleasure, because it represents the culmination of many months of hard work delivered by our engineering team to achieve a very ambitious goal: to develop an outstanding PA system that offers a maximum in flexibility and performance through its impressive sound character and outstanding features. The

task of designing our new P Series certainly meant a great deal of responsibility, which we assumed by focusing on you, the discerning user and musician. Meeting your expectations also meant a lot of work and night shifts. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when all who participated in such a project can be proud of what they've achieved.

It is our philosophy to share our enjoyment with you, because you are the most important member of the BEHRINGER team. With your highly competent suggestions for new products you've made a significant contribution to shaping our company and making it successful. In return, we guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely reasonable price. All of this will enable you to give free rein to your creativity without being hampered by budget constraints.

We are often asked how we manage to produce such high-quality devices at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers mean large sales volumes enabling us to get better purchasing terms for components, etc. Isn't it only fair to pass this benefit on to you? Because we know that your success is our success too!

I would like to thank all of you who have made the P Series possible. You have all made your own personal contributions, from the developers and the many other employees at this company, to you, the BEHRINGER user.

My friends, it's been worth the effort!

Thank you very much,


Uli Behringer

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ATTENTION!

 This loudspeaker is capable of producing extreme volumes. Please bear in mind that high sound pressures do not only temporarily damage your hearing, but can also cause permanent damage. Always make sure to select an appropriate volume.

1. Introduction

By purchasing a BEHRINGER P Series loudspeaker, you have obtained an outstanding PA loudspeaker system. Now, you own (at least) one component of an expandable system that reproduces your music with a balanced and pure sound. Thanks to its numerous features, the P Series is the ideal PA loudspeaker system: it is equally well-suited for both small gigs and larger stages. We have brought it to life in order to offer you a complete selection of loudspeakers. In doing so, we have left open all the options for expanding your PA system. All loudspeakers feature professional inputs and outputs (compatible with Neutrik Speakon connectors), letting you flexibly expand your setup whenever you need to.

The following instructions are intended to familiarize you with the specialized terminology used throughout this user manual in order for you to master all the functions. After having thoroughly read the user manual, store it in a safe place for future reference.

1.1 Before you get started

1.1.1 Shipment

Your loudspeaker was carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

Damaged units should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery of the unit. Otherwise, all claims for replacement/repair may be rendered invalid.

Please always use the original packaging to avoid damage due to storage or shipping.

Never let unsupervised children play with the loudspeaker or its packaging.

Please dispose of all packaging materials in an environmentally friendly fashion.

Information

The sound quality may diminish within the range of powerful broadcasting stations and high-frequency sources. Increase the distance between the transmitter and the device and use shielded cables for all connections.

1.1.2 Online registration

Please remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, our goal is to have it repaired as quickly as possible. To arrange for warranty service, please contact the retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (www.behringer.com/support).

Registering your purchase and equipment helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

2. Connections

The loudspeaker includes two different types of speaker inputs. You will find these on the connection panel at the rear of the loudspeaker.

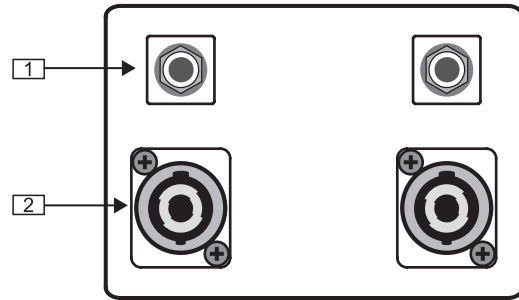


Fig. 2.1: Connection panel

1 1/4" TS loudspeaker connectors.

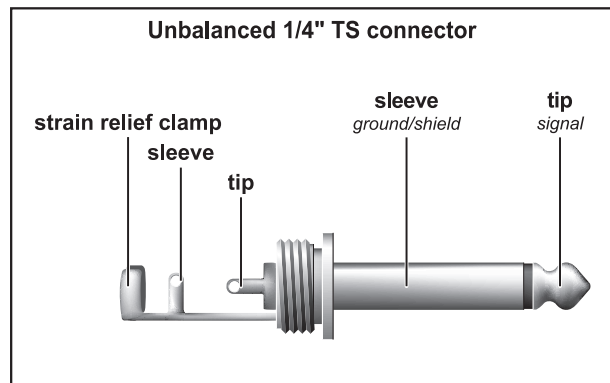


Fig. 2.2: 1/4" TS loudspeaker connector

2 Professional speaker connectors (compatible with Neutrik Speakon connectors). The pin designation of the speaker is pins 1+ and 1-. Pins 2+ and 2- are not connected.

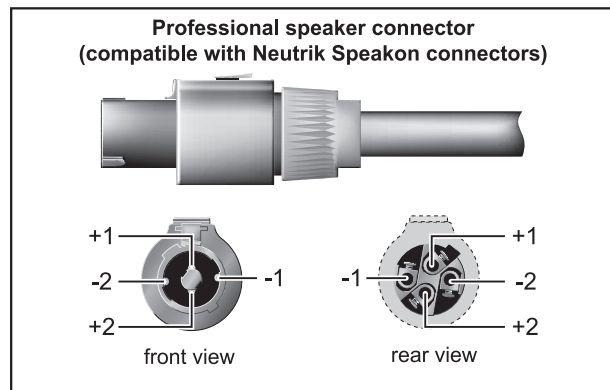


Fig. 2.3: Professional connector (Neutrik Speakon-compatible connector)

Both connectors of each type are wired in parallel. You can optionally connect one of the connectors to the output on your power amp, and tap into the signal on the second connector in order to feed this signal into an additional loudspeaker.

ATTENTION: Never connect more than one power amp output to the loudspeaker system. This may permanently damage your setup.

3. Power amp rating

The power rating of your amplifier should be roughly twice the continuous speaker load capacity. A speaker rated at 200 Watts continuous power can easily be powered by an amp rated at 400 Watts output power. An optimal addition to your speaker system would be the BEHRINGER EUROPOWER amplifiers.

Attention!

When several loudspeakers are wired in parallel the overall impedance Z_{total} to be handled by the power amp can be calculated, as shown below, from the individual impedance values of the connected speakers:

$$Z_{total} = \frac{1}{1/Z_1 + 1/Z_2 + \dots}$$

Your amplifier may be damaged if the actual impedance drops below the minimum impedance specified for your amplifier. Please make sure that the calculated total impedance Z_{total} is not smaller than specified.

4. Wiring

4.1 Full-range stereo operation

This application is for the full-range loudspeakers P1020, P1220, P1220F, P1520 and P2520.

In the following example, the main output signal of a mixing console is connected to a power amplifier. Both the outputs and inputs are stereo. A full-range loudspeaker is connected to each amp output, and these loudspeakers reproduce the entire frequency range (full range).

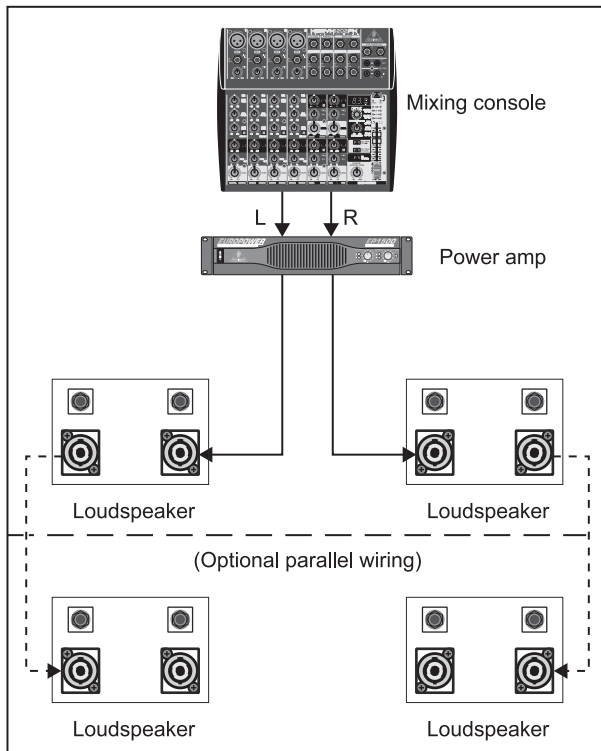


Fig. 4.1: Full-range stereo operation

4.2 Two-way stereo operation with subwoofers

This application is for the subwoofer P1800S in combination with the full-range speakers P1020, P1220, P1520 and P2520. Using an external (active) crossover, the main output signal of a mixing console is divided into two signals. One signal covers the lower frequency range and the other signal covers the mid-to-high-frequency range. The recommended crossover frequency is 200 Hz. Then, the mid-high frequency signal is connected to a stereo power amplifier. A loudspeaker is connected to each of the amplifiers outputs. The low-frequency signal is connected to an additional power amplifier, which powers the subwoofers.

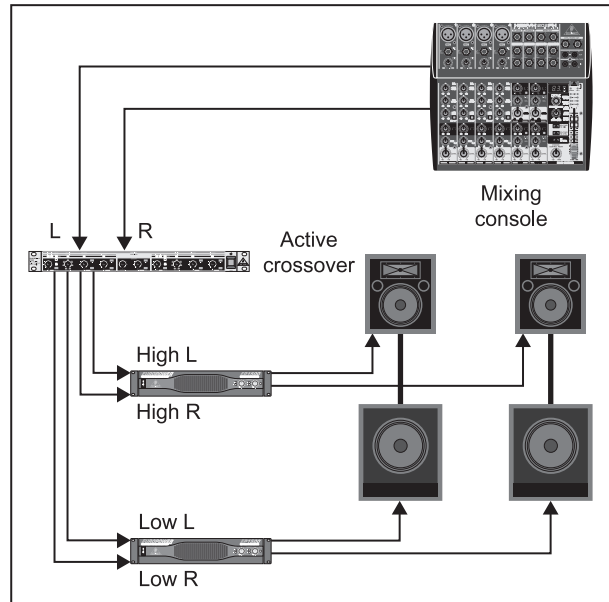


Fig. 4.2: Two-way stereo operation with subwoofers

EUROLIVE P1020/P1220/P1220F/P1520/P2520/P1800S

5. Specifications

	P1020	P1220	P1220F	P1520	P2520	P1800S
SYSTEM DATA						
Continuous Power (IEC268-5)	75 W	80 W	80 W	160 W	225 W	425 W
Peak Power	300 W	320 W		640 W	900 W	1700 W
Type	2-way full-range speaker					subwoofer
Frequency response	70 Hz – 20 kHz	60 Hz – 20 kHz		50 Hz – 20 kHz	45 Hz – 20 kHz	35 Hz – 250 Hz
Impedance	8 Ohm				4 Ohm	
Sound pressure level	98 dB (Full Space; 1 W @ 1 m)					98 dB (1W @ 1m)
Dispersion	90° x 40°					-
Crossover frequency	3.5 kHz				2.7 kHz	- (200 Hz recommended)
Rigging/fittings	- ergonomically shaped handles - integral tripod/stand adaptor	ergonomically shaped handle	- ergonomically shaped handles - integral tripod/stand adaptor	ergonomically shaped handles	- ergonomically shaped handles - 35-mm pole socket	
COMPONENTS						
HF driver	1.75" titanium-diaphragm compression driver					-
Woofer	10" (259 mm)	12" (307 mm)		15" (385 mm)	2 x 15" (385 mm)	18" (460 mm)
DIMENSIONS/WEIGHT						
Width	14.8 / 8.8" (375 / 223 mm)	16.5 / 10.6" (420 / 270 mm)	16.7" (424 mm)	18.1 / 12" (459 / 305 mm)	21.5" (545 mm)	26.5" (672 mm)
Height	20.3" (515 mm)	21.4" (544 mm)	21.7" (550 mm)	25.4" (645 mm)	43.6" (1108 mm)	33.5" (850 mm)
Depth	13" (330 mm)	13.1" (332 mm)	13" / 4.5" (330 / 115 mm)	13.1" (332 mm)	19.6" (497 mm)	17.6" (446 mm)
Weight	30.9 lbs (14 kg)	37.7 lbs (17.1 kg)	35.9 lbs (16.3 kg)	46.3 lbs (21 kg)	90.4 lbs (41 kg)	108.5 lbs (49.2 kg)
Shipping weight	35.3 lbs (16 kg)	41.9 lbs (19 kg)	39.7 lbs (18 kg)	48.5 lbs (22 kg)	94.8 lbs (43 kg)	116.8 lbs (53 kg)

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

6. Warranty

§ 1 Other warranty rights and national law

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.
2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

§ 2 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully.

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

§ 3 Warranty

1. BEHRINGER (BEHRINGER International GmbH including all BEHRINGER subsidiaries, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year¹ from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 5, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.
2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.
3. Warranty claims other than those indicated above are expressly excluded.

§ 4 Return authorization number

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER during normal business hours BEFORE returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.
2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.
3. Shipments without freight prepaid will not be accepted.

§ 5 Warranty regulations

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.
3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts.
4. Damage/defects caused by the following conditions are not covered by this warranty:
 - ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
 - ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
 - ▲ damage/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.
5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.
6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.
7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

§ 6 Warranty transferability

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

§ 7 Claim for damages

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

¹⁾ Customers in the European Union please contact BEHRINGER Germany Support for further details.

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