

User Manual



TRUTH B2031P/B2030P

High-Resolution, Ultra-Linear Reference Studio Monitor

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EN Important Safety Instructions



Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock.

Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



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.



Caution

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.



Caution

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.



Caution

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.

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. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Use only attachments/accessories specified by the manufacturer.



12. 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.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. 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.

15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



LEGAL DISCLAIMER

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Trident Chambers, Wickhams Cay, P.O. Box 146, Road Town, Tortola, British Virgin Islands

LIMITED WARRANTY

§ 1 Warranty

① This limited warranty is valid only if you purchased the product from a MUSIC Group Authorized Reseller in the country of purchase. A list of authorized resellers can be found on BEHRINGER's website behringer.com under "Where to Buy", or you can contact the MUSIC Group office closest to you.

② MUSIC Group* warrants the mechanical and electronic components of this product to be free of defects in material and workmanship if used under normal operating conditions for a period of one (1) year from the original date of purchase (see the Limited Warranty terms in § 4 below), unless a longer minimum warranty period is mandated by applicable local laws. If the product shows any defects within the specified warranty period and that defect is not excluded under § 4, MUSIC Group shall, at its discretion, either replace or repair the product using suitable new or reconditioned product or parts. In case MUSIC Group decides to replace the entire product, this limited warranty shall apply to the replacement product for the remaining initial warranty period, i.e., one (1) year (or otherwise applicable minimum warranty period) from the date of purchase of the original product.

③ Upon validation of the warranty claim, the repaired or replacement product will be returned to the user freight prepaid by MUSIC Group.

④ Warranty claims other than those indicated above are expressly excluded.

PLEASE RETAIN YOUR SALES RECEIPT. IT IS YOUR PROOF OF PURCHASE COVERING YOUR LIMITED WARRANTY. THIS LIMITED WARRANTY IS VOID WITHOUT SUCH PROOF OF PURCHASE.

§ 2 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase at behringer.com under "Support" and kindly read the terms and conditions of our limited 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 Return materials authorization

① To obtain warranty service, please contact the retailer from whom the equipment was purchased. Should your MUSIC Group Authorized Reseller not be located in your vicinity, you may contact the MUSIC Group Authorized Fulfiller for your country listed under

“Support” at behringer.com. If your country is not listed, please check if your problem can be dealt with by our “Online Support” which may also be found under “Support” at behringer.com. Alternatively, please submit an online warranty claim at behringer.com BEFORE returning the product. All inquiries must be accompanied by a description of the problem and the serial number of the product. After verifying the product’s warranty eligibility with the original sales receipt, MUSIC Group will then issue a Return Materials Authorization (“RMA”) number.

② Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by MUSIC Group.

③ Shipments without freight prepaid will not be accepted.

§ 4 Warranty Exclusions

① This limited warranty does not cover consumable parts including, but not limited to, fuses and batteries. Where applicable, MUSIC Group warrants the valves or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase.

② This limited warranty does not cover the product if it has been electronically or mechanically modified in any way. 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. This limited warranty does not cover any such modification/adaptation, regardless of whether it was carried out properly or not. Under the terms of this limited warranty, MUSIC Group shall not be held responsible for any cost resulting from such a modification/adaptation.

③ This limited warranty covers only the product hardware. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the product. Any such software is provided “AS IS” unless expressly provided for in any enclosed software limited warranty.

④ This limited warranty is invalid if the factory-applied serial number has been altered or removed from the product.

⑤ Free inspections and maintenance/repair work are expressly excluded from this limited 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, guitar strings, illuminants and similar parts.

⑥ Damage/defects caused by the following conditions are not covered by this limited 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 acts of God/Nature (accident, fire, flood, etc) or any other condition that is beyond the control of MUSIC Group.

⑦ Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the limited warranty.

⑧ If an inspection of the product by MUSIC Group shows that the defect in question is not covered by the limited warranty, the inspection costs are payable by the customer.

⑨ Products which do not meet the terms of this limited warranty will be repaired exclusively at the buyer’s expense. MUSIC Group or its authorized service center will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, MUSIC Group 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.

⑩ MUSIC Group Authorized Resellers do not sell new products directly in online auctions. Purchases made through an online auction are on a “buyer beware” basis. Online auction confirmations or sales receipts are not accepted for warranty verification and MUSIC Group will not repair or replace any product purchased through an online auction.

§ 5 Warranty transferability

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

§ 6 Claim for damage

Subject only to the operation of mandatory applicable local laws, MUSIC Group shall have no liability to the buyer under this warranty for any consequential or indirect loss or damage of any kind. In no event shall the liability of MUSIC Group under this limited warranty exceed the invoiced value of the product.

§ 7 Limitation of liability

This limited warranty is the complete and exclusive warranty between you and MUSIC Group. It supersedes all other written or oral communications related to this product. MUSIC Group provides no other warranties for this product.

§ 8 Other warranty rights and national law

① This limited warranty does not exclude or limit the buyer’s statutory rights as a consumer in any way.

② The limited warranty regulations mentioned herein are applicable unless they constitute an infringement of applicable mandatory local laws.

③ This warranty does not detract from the seller’s obligations in regard to any lack of conformity of the product and any hidden defect.

§ 9 Amendment

Warranty service conditions are subject to change without notice. For the latest warranty terms and conditions and additional information regarding MUSIC Group’s limited warranty, please see complete details online at behringer.com.

* MUSIC Group Macao Commercial Offshore Limited of Rue de Pequim No. 202-A, Macau Finance Centre 9/J, Macau, including all MUSIC Group companies

1. Introduction

Congratulations! With our new BEHRINGER TRUTH you have purchased one of the best high-resolution passive studio monitors available. It is a tool that reproduces your program material with highest fidelity and balance, positioning sound sources accurately on the stereo basis.

The TRUTH speakers stand out thanks to their toughness and extremely neutral and authentic sound rendition. In the bass range, they operate with polypropylene membranes and smooth suspension. Their scope is broadened downward by using a special bass reflex system. In the upper frequency range, a specially developed ferrofluid-cooled aluminum tweeter provides for subtle signal reproduction. The TRUTH is magnetically shielded, so you can use it near computer monitors or TV sets. The audio signal is separated using a low-distortion crossover that creates a phase-optimized frequency separation.

We recommend that you experiment with your TRUTH away from the pressures of a recording session, in order to get a feel for it. It will be a good idea to listen to your favorite CD's over the TRUTH, so that you can get an impression of the neutral sound this speaker produces—which might be somewhat unusual at first!

- ◆ The following user's manual is intended to familiarize you with the unit's control elements, so that you can master all the functions. After having thoroughly read the user's manual, store it at a safe place for future reference.

1.1 Before you get started

The B2030P/B2031P were carefully packed at the factory 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 TRUTH speakers or their packaging.
- ◆ Please dispose of all packaging materials in an environmentally friendly fashion.

The TRUTHs must be placed on a flat and stable surface.

1.1.1 Online registration

Please register your new BEHRINGER equipment right after your purchase by visiting <http://behringer.com> and read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, it is our intention to have it repaired as quickly as possible. To arrange for warranty service, please contact the BEHRINGER 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 (<http://behringer.com>).

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

Thank you for your cooperation!

2. Control Elements

The control elements described in the following are the same on both speakers.

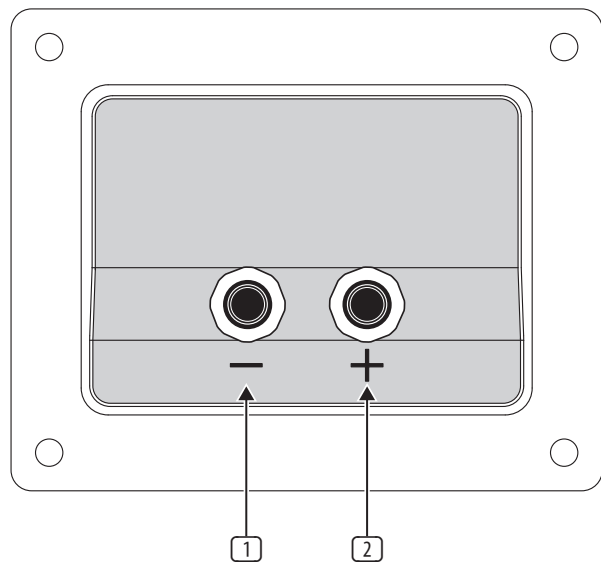
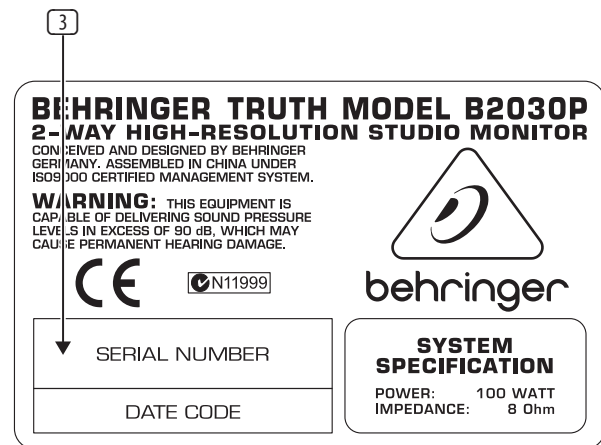


Fig. 2.1: Rear panel connectors

- ① This is the terminal clamp for the minus cord of your speaker cable.
- ② This is the terminal clamp for the plus cord of your speaker cable.

The connection terminal of your TRUTH is recessed. This way, you can place it in the vicinity of walls.

- ◆ Always power down your amp before connecting it to the TRUTH.

- ③ SERIAL NUMBER.

3. Application

3.1 Connection

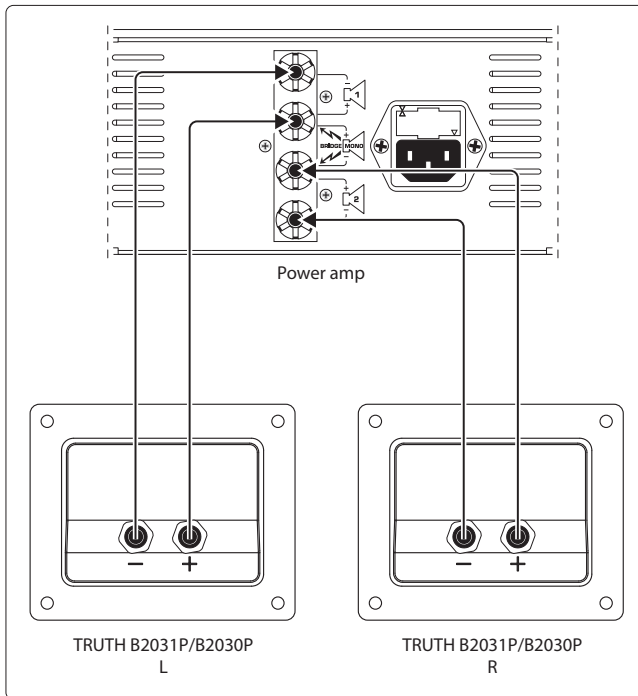


Fig. 3.1: Connecting an amplifier

Please follow these steps to connect your TRUTHs to a power amp: Loosen the plus screw (red ring with a "+") and the minus screw (black ring with a "-"). Now insert the plus cord of the speaker cable connecting the amp to your TRUTH into the plus opening. Then, connect the minus cable into the minus opening. Tighten the screws. Do the same to connect the other TRUTH.

- ◆ **Make sure that all connections are done properly. Speaker cables are color-coded to help avoid confusion. You'll know that the signal is inverted (i.e. you've mixed up the connections) when you notice that bass frequencies are getting lost and when the stereo characteristic of the signal is majorly worse.**
- ◆ **Always make sure that bare wire ends never touch the open end of another speaker cable, speaker connectors or metal parts of your amp.**

3.1.1 The truth about speaker cables

Carefully approach the choice of what cables you use. Which cables you use can have a major influence on your sound. Cables of various lengths and diameters affect the resistance value—causing a loss in power.

On the other hand, that doesn't mean that you should be buying high-end cables that cost as much as your speakers. Simply use the following rule of thumb: Whenever possible, use cables with large diameters (gauge) and keep the cable length to a minimum. The screw clamps on your TRUTH can accept cable thickness of up to 7 mm² (9 AWG).

3.1.2 Amp

The power rating of the amp you use should be roughly twice the load capacity of your TRUTH. Consequently, the B2030P should be operated with an amp with a load capacity of 2 x 200 Watts, and the B2031P with an amp with a load capacity of 2 x 300 Watts.

Also, you should keep in mind the impedance of your TRUTH in order to guarantee optimal power delivery. The B2031P's impedance is 4 Ω, whereas the B2030P's is 8 Ω. Use an amp whose power rating roughly corresponds to the values recommended in the table. The impedance should correspond to the values listed in the table:

TRUTH	Amp power rating
B2030P	200 W into 8 Ohm
B2031P	300 W into 4 Ohm

Tab. 3.1: Recommended amp power ratings

Of course, you can use amps with higher power ratings. However, make sure not to exceed the load capacity of your TRUTH. Damage to speaker components caused by exceeding their load capacity is not covered by the warranty.

3.1.3 Protecting your TRUTHs

To ensure that your B2030P/B2031P last for years to come, you should definitely keep the following in mind:

- Always turn the volume down on your amp before switching it on or off
- When powering your equipment up/down, the amp should always be the last one to be powered up and the first one to be powered down. This way, you avoid loud crackling noise that occurs when you turn studio equipment on or off
- Always make sure your audio signal level is optimally set. Avoid overdriving your amp
- Do not push your studio monitors beyond their physical limitations. Even though your TRUTH has sufficient power overhead, you can still damage it if you drive it too much or crank the volume all the way up for longer periods of time

3.2 Speaker placement suggestions

Since the sound of a speaker depends to a great extent from its surroundings, placing your TRUTH correctly is very important. Please try to follow these suggestions through. Your efforts will be rewarded with better sound and higher resolution.

Both speakers are built identically. There is no need to concern yourself with which speaker should be placed left and which speaker should be placed right. Place the TRUTHs on a flat and stable surface, if possible use a dedicated speaker stand. In this way, the speaker is acoustically decoupled and won't induce vibrations in nearby objects, which would affect the bass response. If you cannot use a stand, put the TRUTHs on spikes or damping foam material. Another aspect is the distance between speaker and wall: keep the speaker away from the wall, as this would emphasize the bass response, particularly in corners, where two walls form an angle.

The BEHRINGER TRUTH B2030P/B2031P is a so-called near-field monitor, which means that the impact of the room acoustics on the sound will be reduced considerably owing to the short distance between speaker and listener.

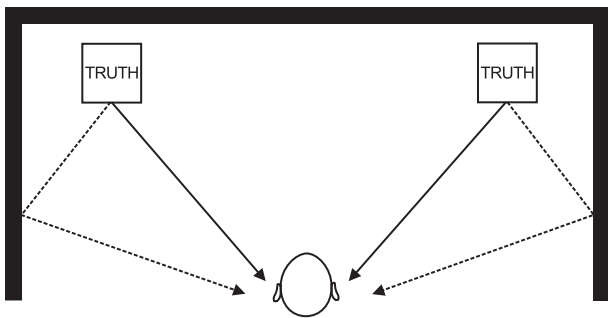


Fig. 3.2: Incorrect speaker setup

This illustration shows how you shouldn't do it: you can clearly see that a portion of the sound bounces back from the walls before it reaches the listener's ears. Thus, direct and reflected sound waves overlap which results in a coloration of the sound.

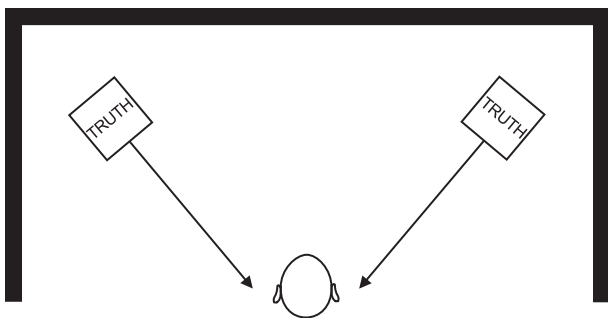


Fig. 3.3: Correct speaker setup

This effect can be reduced by turning the speakers towards the listener. To make reflections from ceiling or floor less likely, the tweeters should be on the same height as your ears. Please note that the TRUTH should be operated vertically. Where this is impossible, place it horizontally as shown in the illustration (i.e. woofers closer to each other), to allow for an improved stereo image.



Fig. 6.4: TRUTH setup horizontally

Not only the physical location of speakers but also the acoustic characteristics of the room have a substantial effect on the way your TRUTH sounds. Make sure that the room neither sounds too hall-like nor too dull—basically, neither like a bathroom nor totally without an echo. You can alter the room acoustics easily by installing or removing carpets, curtains or furniture. Fabric covering on the wall opposite the speakers might be a good idea if the room is too reflective. The next chapter describes how to adapt the TRUTH to the room acoustics, once it has been set up properly.

3.3 Adapting the TRUTHs to the room acoustics

To acoustically adapt your TRUTH to your control room, in cases when the speakers are located in unusual places or when you have specific sound requirements, you may have to use an external equalizer. It should be connected in the signal path between your mixing console and your amp.

The BEHRINGER ULTRACURVE PRO DEQ2496 has proven its usefulness in practice, as it is not only a simple equalizer but also features a real-time analyzer. You can use our measuring microphone ECM8000 to automatically adapt the TRUTH to your room or modify its frequency response.

As a general rule, you should set up and adjust the TRUTH with great care.

Above all, you should take your time: unlike hi-fi speakers, the TRUTH is tuned to produce a neutral sound, which can be confusing when you are working for the first time with such a high-quality speaker. Don't try to adjust the TRUTH with an equalizer to produce a "bombastic" sound that impresses you or other listeners. To get a feeling for the TRUTH's sound, you should listen to as many records as possible that were produced in other studios. We also recommend that you listen to your own recordings over as many other systems as possible, for example, your car system. If you find that your mixes are somewhat "dull" in their overall sound, the reason might be too much treble from your TRUTH. On the other hand, if you set the bass level too high, you will find that your mixes lack bass power. Tuning a speaker can take several days' time, so once again: take your time!

4. Specifications

Connectors

Type	Binding posts
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System Specifications

B2031P

Continuous Power (IEC 268-5)	150 W
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Peak Power

Impedance	4 Ω
Frequency response	55 Hz to 21 kHz
Sound pressure level	89 dB (1 W/1 m)

B2030P

Continuous Power (IEC 268-5)	100 W
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Peak Power

Impedance	8 Ω
Frequency response	75 Hz to 21 kHz
Sound pressure level	89 dB (1 W/1 m)

Components

B2031P

Tweeter	1" dome, ferrofluid-cooled
Woofers	8 $\frac{3}{4}$ " polypropylene diaphragm

B2030P

Tweeter	$\frac{3}{4}$ " dome, ferrofluid-cooled
Woofers	6 $\frac{3}{4}$ " polypropylene diaphragm

Crossover

B2031P

Crossover frequency	2 kHz
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B2030P

Crossover frequency	2.3 kHz
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Dimensions/Weight

B2031P

Dimensions (H x W x D)	15 $\frac{4}{8}$ " x 10 $\frac{1}{16}$ " x 10 $\frac{1}{2}$ " 401 x 257 x 267 mm
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Weight	25 $\frac{1}{8}$ lbs / 11.5 kg
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B2030P

Dimensions (H x W x D)	12 $\frac{1}{2}$ " x 8 $\frac{2}{8}$ " x 8 $\frac{3}{16}$ " 317 x 214 x 211 mm
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Weight	15 $\frac{1}{8}$ lbs / 7.0 kg
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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.



We Hear You