

EN

User Manual



ULTRAPATCH PRO PX3000

Multi-Functional 48-Point 3-Mode Balanced Patchbay

Table of Contents

Thank you	2
Important Safety Instructions	3
Legal Disclaimer	3
Limited Warranty	3
1. Introduction	5
2. Patchbay Organization	5
2.1 NORMAL mode	5
2.2 HALF NORMAL mode.....	5
2.3 THRU mode	6
3. Wiring & Grounding	6
4. Cautions	6
5. Audio Connections	6
6. Specifications.....	6

Thank you

Thank you very much for expressing your confidence in us by purchasing the ULTRAPATCH PRO PX3000. The PX3000 is a multi-functional balanced 48-point patchbay for studio and stage applications.

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.



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.



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

UNDERTAKING OR REPRESENTATION. THIS MANUAL IS COPYRIGHTED. NO PART OF THIS MANUAL MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING AND RECORDING OF ANY KIND, FOR ANY PURPOSE, WITHOUT THE EXPRESS WRITTEN PERMISSION OF MUSIC GROUP IP LTD.

ALL RIGHTS RESERVED.

© 2012 MUSIC Group IP Ltd.

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

LEGAL DISCLAIMER

TECHNICAL SPECIFICATIONS AND APPEARANCES ARE SUBJECT TO CHANGE WITHOUT NOTICE AND ACCURACY IS NOT GUARANTEED. BEHRINGER IS PART OF THE MUSIC GROUP (MUSIC-GROUP.COM). ALL TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS. MUSIC GROUP ACCEPTS NO LIABILITY FOR ANY LOSS WHICH MAY BE SUFFERED BY ANY PERSON WHO RELIES EITHER WHOLLY OR IN PART UPON ANY DESCRIPTION, PHOTOGRAPH OR STATEMENT CONTAINED HEREIN. COLORS AND SPECIFICATIONS MAY VARY FROM ACTUAL PRODUCT. MUSIC GROUP PRODUCTS ARE SOLD THROUGH AUTHORIZED FULLFILLERS AND RESELLERS ONLY. FULLFILLERS AND RESELLERS ARE NOT AGENTS OF MUSIC GROUP AND HAVE ABSOLUTELY NO AUTHORITY TO BIND MUSIC GROUP BY ANY EXPRESS OR IMPLIED

"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.

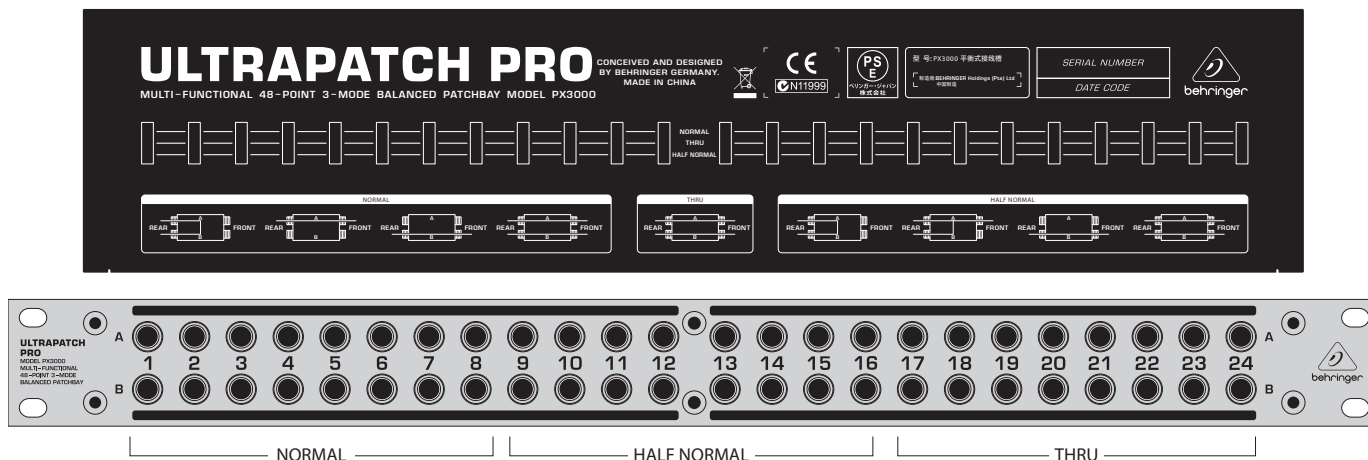
② The limited warranty regulations mentioned herein are applicable unless they constitute an infringement of applicable mandatory local laws.

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

What are patchbays for? A patchbay allows you to patch (or interconnect) the audio signals of most components in your system from a central point and send them to other units, making your entire cabling more organized and better suited for professional work. If you want to use your studio as effectively as possible, it is recommended that you use a complete patchbay wiring scheme—even smaller studios will benefit from a less complex patchbay configuration.

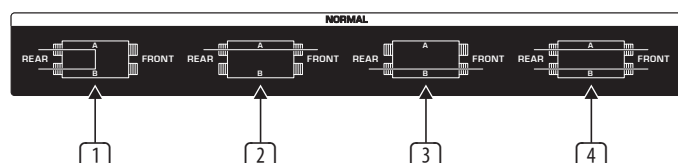
2. Patchbay Organization

The ULTRAPATCH PRO PX3000 has two rows (A and B) of 24 balanced 1/4" jacks on the 1 HU 19" front rack panel. The same number and configuration of balanced 1/4" jacks are on the rear panel. These jacks are grouped in fours (A and B from the front with the corresponding A and B on the rear) to form the 24 channels. Each channel has a switch on the top of the unit that allows you to select the operating mode for each channel: NORMAL (normalized), HALF NORMAL (half normalized) and THRU (through-connected). Connect your audio equipment to the rear jacks, then you can easily interconnect your equipment or reconfigure your setup using short patch cables plugged into the jacks on the front panel. Of course, you can also use unbalanced cables.

♦ **Basic rule: on a patchbay the upper jacks are always outputs, the lower jacks inputs.**

When using several patchbays, plan the layout of your standard configuration to avoid a tangle of cables. Arrange the channels one below the other in such a way that you could connect several patchbays without having to cross connect or span great distances.

2.1 NORMAL mode

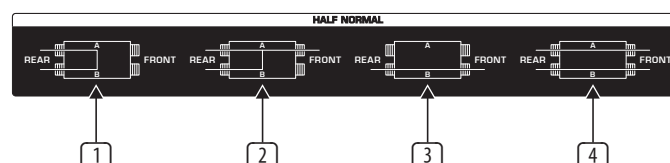


In NORMAL mode the rear A & B jacks of the channel are connected together (pos. ①). The connection between the rear jacks is disabled when you insert a cable into jack A or B on the front panel (pos. ② and ③).

In the example above, top-row channels 1 to 4 are from the outputs of a keyboard and a MIDI sound module. They are connected, in this example configuration, to input channels 1 to 4 on the mixer.

Channels 5 and 6 are from the subgroup outputs of a mixer and are connected, in this example configuration, to the inputs of a computer audio card. Audio sequencer software records the music signals directly onto the hard disk of the computer. Channels 7 and 8 connect the soundcard outputs to the 2-track inputs of the mixer. Since the rear-panel jacks are connected together in the NORMAL mode (pos. ①), the subgroup signals can be recorded directly onto the PC and played back via the 2-track input of the mixer (playback/monitoring), without a single patch cable having to be plugged in! In this way, you can build up a basic configuration for your studio, which can be easily modified by simply patching signals via the front-panel jacks (pos. ②) or by feeding in external signals via patch cables (pos. ③). You could, for example, connect the keyboard signal to channels 3 and 4 by patching 1A to 3B, and 2A to 4B. So, before wiring your studio, it is advisable to identify the connections that will be used most frequently and set them up, as your basic configuration, one above the other on the patchbay. Then you will have a clear overview of all connections and still be flexible.

2.2 HALF NORMAL mode



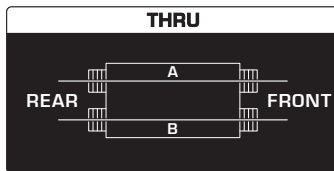
In HALF NORMAL mode, the rear A & B jacks of the channel are connected together (pos. ①). Unlike NORMAL mode, the connection between the rear-panel jacks is **not disabled** when a 1/4" plug is inserted into **jack A** on the front panel (pos. ②). This allows you to take the signal from a mixers channel strip in parallel—without interrupting the signal path on the channel strip. Like NORMAL mode, the connection between the rear-panel jacks **is disabled** when a 1/4" plug is inserted into **jack B** on the front panel (pos. ③). When 1/4" plugs are inserted into both jacks A & B on the front panel, the front jacks will be connected separately to the corresponding rear jacks (pos. ④). This is called an "input break" and is used mainly to insert an effect or processor into the signal path.

In the example above, top-row channels 9 to 14 are the sends (tip contact of insert points) from mixer channels 1 to 4 plus the main left & right sends. They are connected, in this example configuration, to their respective returns (ring contacts of insert points) of the mixer.

Outputs from the mixer sends can be taken from jack A without disabling the connection to the returns (pos. ②). The mixer returns can be used as external line inputs, by patching cables to jack B (pos. ③). External effects or processors can be inserted into the send-return loop by connecting their inputs & outputs to jacks A & B (pos. ④).

The main left & right outputs of the mixer are connected, in this example configuration, to a mini-disc recorder. However, they can also be connected in parallel to another recorder (pos. 2). The mini-disc recorder can record other sources when they are connected to jack B of channels 15 and 16 (pos. 4).

2.3 THRU mode



This mode is for sound modules or playback devices (e.g. CD players) that only have output signals. You can save space by routing the left and right outputs to one channel (jacks A & B) of the patchbay. A more typical setup is to connect the left and right outputs to adjacent channels (jacks A & A) and then connect another device to jacks B & B of the same channels. This configuration also allows you to position the inputs and outputs of effects devices, compressors, equalizers, etc. directly above each other.

In the example configuration above, the outputs of the playback devices (CD and mini-disc) plus the four individual outputs of a sampler are connected to channels 17 to 20, while channels 21 to 24 are used for the inputs & outputs of a compressor and an EQ, which are usually connected to the inserts of a mixer.

3. Wiring & Grounding

Looming the wiring is an art itself and it is worth the time to get it right. First, it is important to avoid ground loops. Don't remove the ground connection of your mains cable plug to reduce 50/60 Hz mains hum. Instead, systematically disconnect the signal shields in the signal chain until the hum ceases.

It is typically best to connect only one end of each shield to a central point and to connect this single point to ground. Then all equipment will be grounded via a single path (more than one path can lead to ground loops which can cause hum).

Some equipment has isolated grounding for the signals and the mains. In this case, at least one screen should ground the equipment.

Please assure that the patchbay is installed so that it does not disturb the studio's grounding scheme. Always use patch leads that are as short as possible and have the shield connected at both ends.

After eliminating the mains hum from the system, make your cable looms from the patchbays outwards and use cable ties, flexible sheaths, multicores, etc. to keep the back of your racks orderly. It is also wise to keep low level/line level signal cables away from high voltage/mains cables.

4. Cautions

Avoid routing digital signals near a patchbay because the pulse signal used for the transmission of digital signals causes heavy interference in analog signals. Do not use standard patchbays for digital signals. Use the ULTRAMATCH PRO SRC2496—it is specifically designed for routing and matching digital signals.

Microphone inputs are for very low level signals and should never be routed via a patchbay. Plus, the +48 Volt phantom power from the mic input could damage other equipment. It is best to plug mics directly into the mixer or via a wall box using good quality balanced multi-core cables.

5. Audio Connections

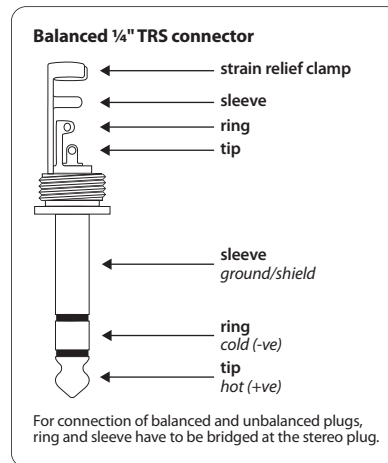


Fig. 5.1: 1/4" TRS connector

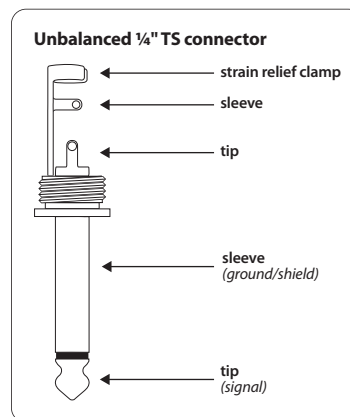


Fig. 5.2: 1/4" TS connector

6. Specifications

Connectors	1/4" TRS, balanced
Dimensions (H x W x D)	approx. 3 2/3 x 1 3/4 x 19" approx. 93 x 44.5 x 482.6 mm
Weight	approx. 4 lbs / 1.8 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.



We Hear You