ULTRAPATCH PRO PX3000

User's Manual
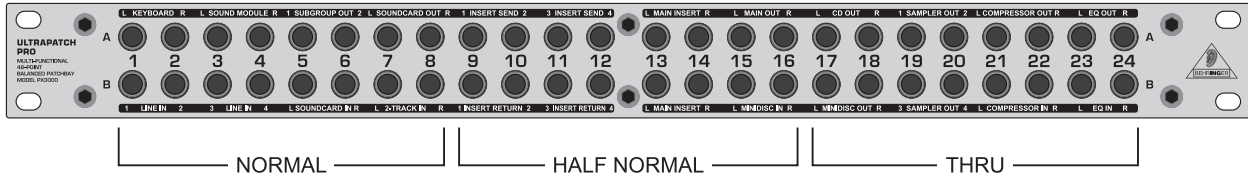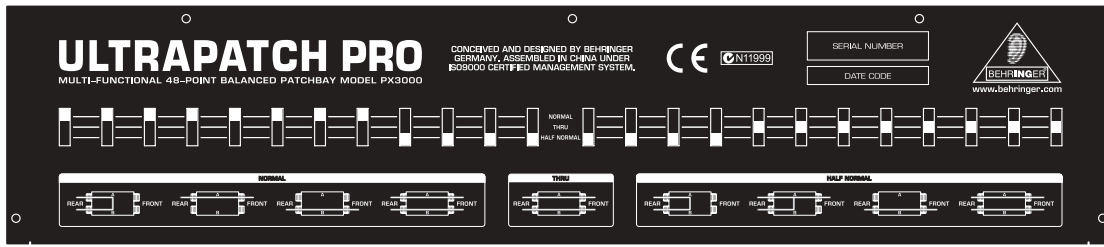
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ULTRAPATCH PRO PX3000

NORMAL — HALF NORMAL — THRU

1. INTRODUCTION

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.

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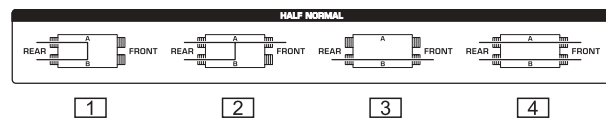
2.1 NORMAL mode
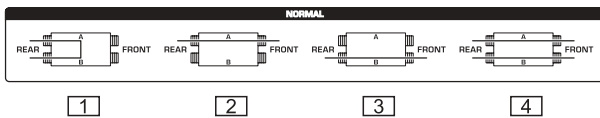
In NORMAL mode the rear A & B jacks of the channel are connected together (pos. 1). The connection between the rear jacks is disabled when you insert a cable into jack A or B on the front panel (pos. 2 and 3).

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
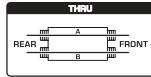
This mode is for sound modules or playback devices (e.g. CD players) that only have output signals. You can save space by routing the left and right outputs to one channel (jacks A & B) of the patchbay. A more typical setup is to connect the left and right outputs to adjacent channels (jacks A & A) and 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.
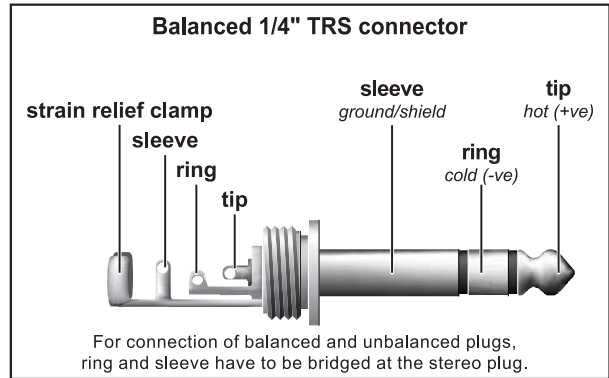
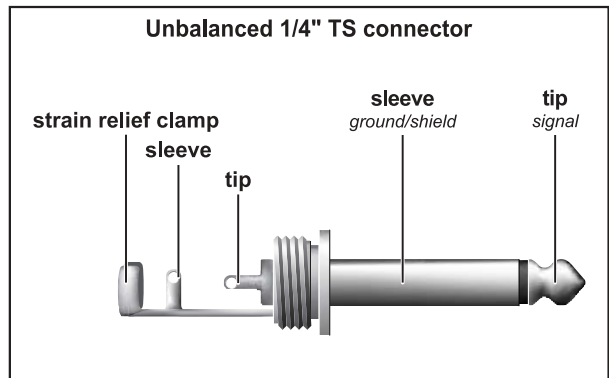## 5. AUDIO CONNECTIONS

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. 1 3/4" x 19" x 3 2/3" (44.5 mm x 482.6 mm x 93 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.

ULTRAPATCH PRO PX3000

7. WARRANTY

§ 1 WARRANTY CARD/ONLINE REGISTRATION

To be protected by the extended warranty, the buyer must complete and return the enclosed warranty card within 14 days of the date of purchase to BEHRINGER Spezielle Studiotechnik GmbH, in accordance with the conditions stipulated in § 3. Failure to return the card in due time (date as per postmark) will void any extended warranty claims. Based on the conditions herein, the buyer may also choose to use the online registration option via the Internet (www.behringer.com or www.behringer.de).

§ 2 WARRANTY

1. BEHRINGER (BEHRINGER Spezielle Studiotechnik GmbH including all BEHRINGER subsidiaries listed on the enclosed page, 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) year* 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 § 4, 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.

§ 3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) 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.

§ 4 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. Damages/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.

▲ damages/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.

§ 5 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.

§ 6 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.

§ 7 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.

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