

USER MANUAL

RevA 07-2017

RPX-3400

3 | 4 WAY ACTIVE XO

Welcome

Thank you for choosing Hill Audio for your sound system. To make sure that this product meets your expectations and provides long-term, reliable performance, please read and follow this instruction manual carefully.

Manual Language

UK	This user manual is written in English. For other languages, visit	www.hill-audio.com
FR	Ce guide est écrit en anglais. Pour les autres langues, visitez:	www.hill-audio.com
DE	Diese Anleitung ist in Englisch verfasst. Für andere Sprachen:	www.hill-audio.com
ES	Este manual está escrito en Inglés. Para otros idiomas, visite:	www.hill-audio.com
PT	Este manual está escrito em Inglês. Para outros idiomas, visite:	www.hill-audio.com
IT	Questo manuale è scritto in inglese. Per altre lingue, visitare:	www.hill-audio.com

Important safety instructions

- Read these instructions and all markings on the product. Keep these instructions.
- Heed all warnings and instructions, both in this manual and on the product.
- Clean only with a dry cloth. Unplug from AC supply before cleaning.
- Do not use this product near water and avoid any exposure to water.
- Before connecting this product to any AC supply, make sure to check whether the AC mains voltage and frequency match the indication on the product and its packaging.
- Only connect this product to an AC supply with sufficient power handling, protective earth connection, ground-fault (earth-fault) protection and overload protection.
- Disconnect the product from the AC supply during thunderstorms or longer periods of being unused.
- Make sure any heat sink or other cooling surface, or any air convection slot, is exposed sufficiently to free air circulation and is not blocked.
- Do not operate this product in environmental temperatures exceeding 35 degrees Celsius and/or 85% relative humidity.
- Position the product in a safe and stable place for operation, out of reach of unauthorized persons.
- Make sure any cable connections to and from the product are neither subject to potentially destructive mechanical impact nor present any risk of stumbling or other accident risk to people.
- Audio equipment may generate sound pressure levels sufficient to cause permanent hearing damage to persons. Always start up at low volume settings and avoid prolonged exposure to sound pressure levels exceeding 90 dB.
- Do not open this product for service purposes. There are no user-serviceable parts inside. Warranty will be void in any case of unauthorized service by the user or other not authorized persons.
- Take any precaution required by local law, applicable regulations or good business practice to avoid injury of people or material damage by use of this product.

Explanation of symbols used in this manual and on the product:



ATTENTION!
Read manual before installation and operation.



DANGER!
Safety hazard.
Risk of injury or death.



WARNING!
Hazardous voltage.
Risk of severe or fatal electric shock.



WARNING!
Fire hazard.

Description

The RPX-3400 is a stereo 3-way/mono 4-way active crossover with additional output limiters. It sports 24dB/Oct Linkwitz-Riley filters with adjustable crossover frequencies. Low Cut Filters for the inputs, as well as a Mute function and Phase reverse for all outputs complete the feature set and make this units a prime choice for active bi-amplified sound systems.

Health advice

This unit produces and absorbs electromagnetic radiation. The strength of radiation and the sensitivity for disturbing interference matches the CE and FCC requirements. A corresponding sign is printed on the backside of the unit. Any change or modification may affect the behavior of the unit concerning electromagnetic radiation, with the CE requirements eventually not to be met any more. The manufacturer takes no responsibility in this case.

Functional advice

This unit is immune to the presence of electromagnetic disturbances – both conducted and radiated - up to a certain level. Under peak conditions, the unit is classified to show a “class C” performance criteria and may encounter temporary degradation or loss of function which may need manual help to recover. In such case, disconnect the AC power from the unit and reconnect it again to recover.

Environmental advice

This unit is built to conform to the ROHS standards and the WEEE directive 2002/96/EC of the European Parliament and of the Council of the European Union. Under these regulations, the product shall not be discarded into regular garbage at the end of its life, but shall be returned to authorized recycling stations.

Unpacking

Please check that the box contains the following items:

Main parts: 1 pc. RPX-3400 main unit
 1 pc. Mains cable
 1 pc. Operation manual

If any part is missing, please contact your dealer immediately for replacement.

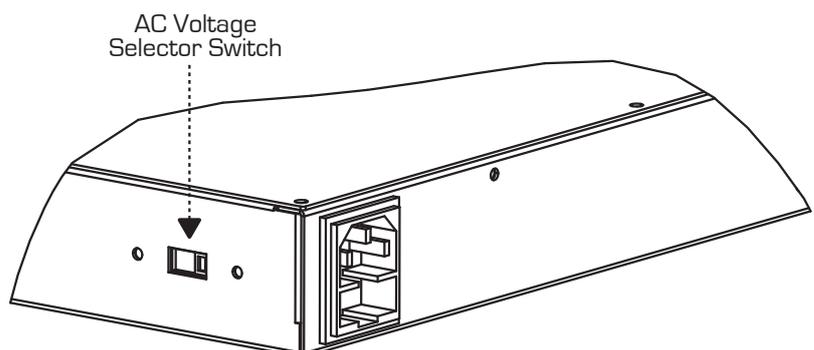
Warning



After unpacking, and before plugging the AC cord in the wall outlet, check whether the AC mains voltage and frequency is the same as this product is specified for (see rear panel of product). Whenever the specified voltage or your AC plug should not match the local conditions, do NOT plug the AC cord into the wall outlet and contact your dealer immediately.

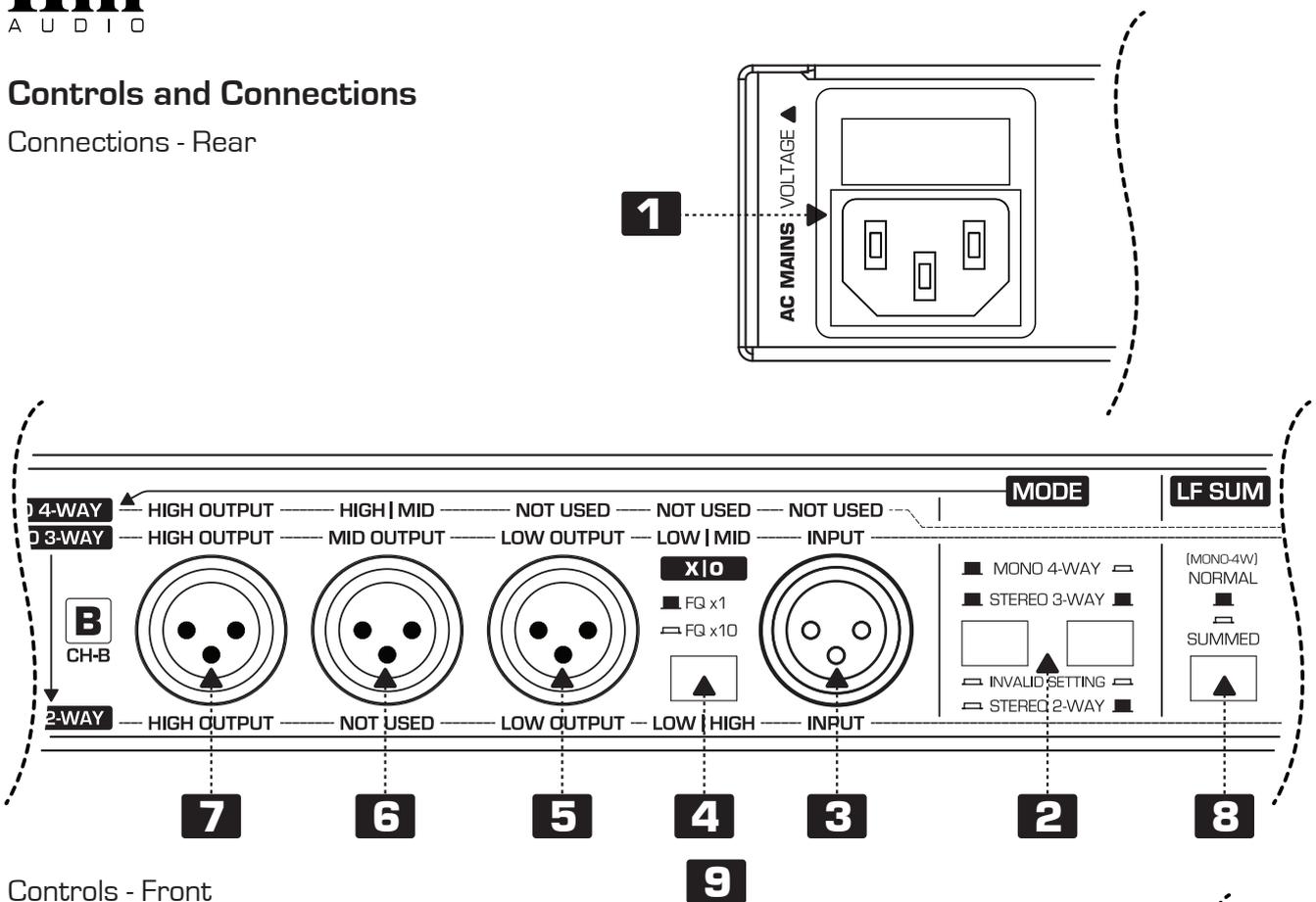
AC mains voltage setting

If the AC mains voltage of your power outlet and the setting of the AC supply voltage on your unit do not match, contact your dealer, contractor or a qualified service workshop to change the setting of the AC voltage selector. The AC voltage selector switch is located on the side panel of the unit, close to the AC inlet.

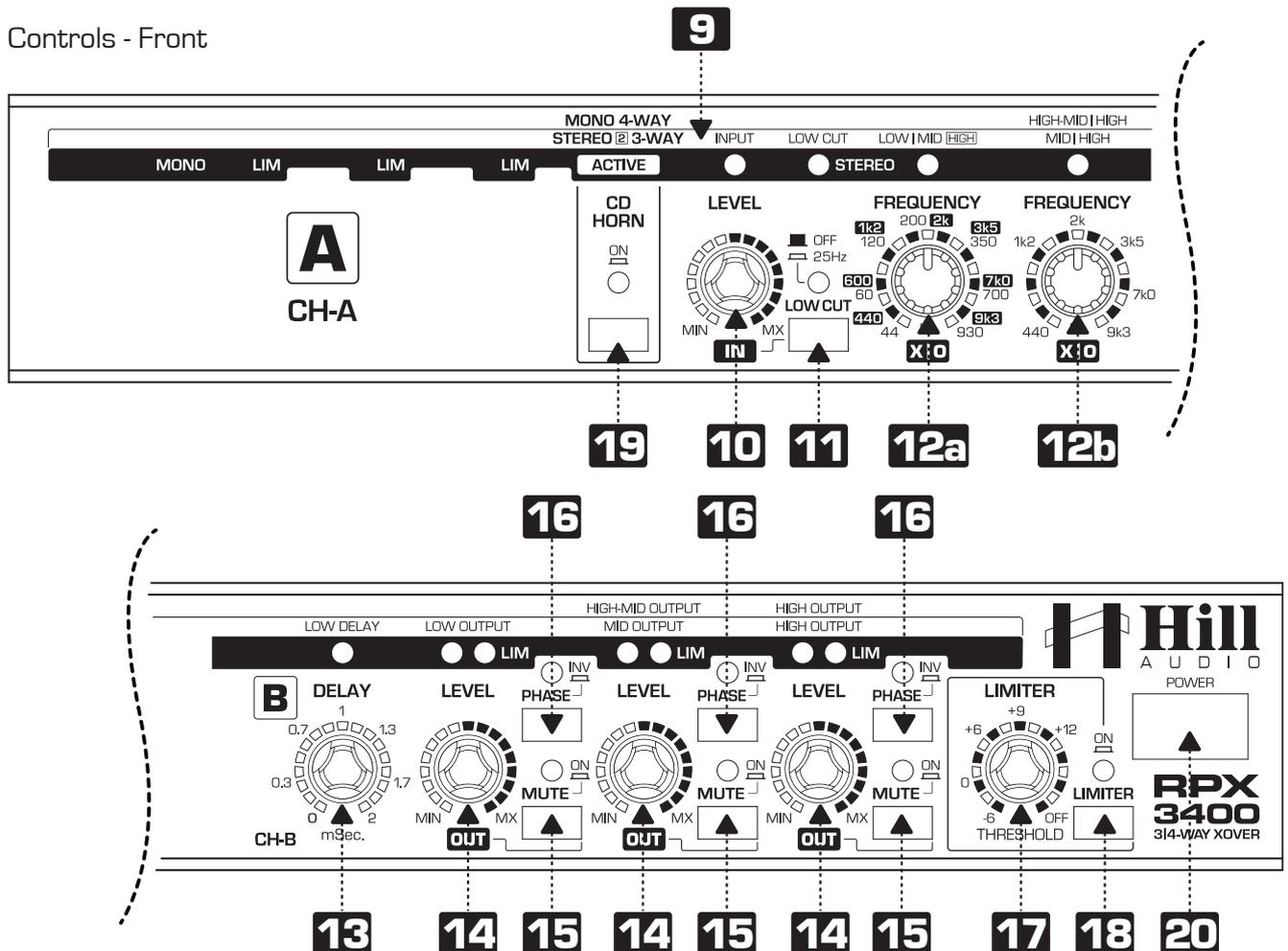


Controls and Connections

Connections - Rear



Controls - Front



Functional Description

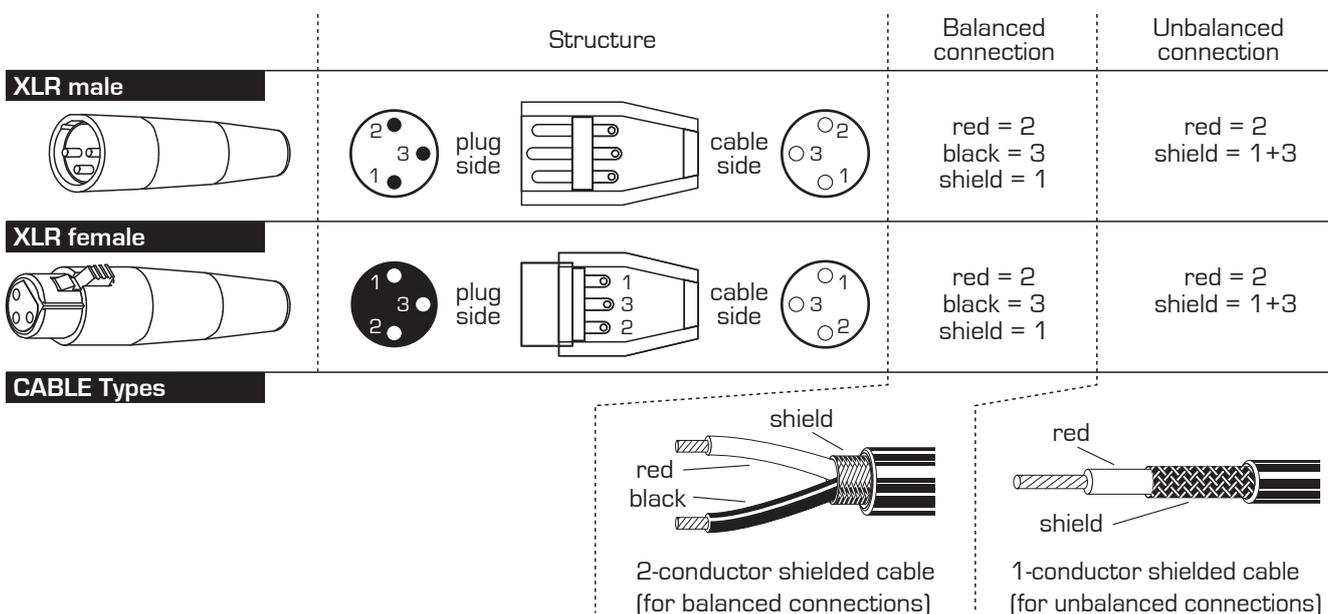
The RPX-3400 is a stereo 3-way/mono 4-way active crossover. The Linkwitz-Riley filters with adjustable crossover frequencies offer a constant summed amplitude response and are complemented by 25Hz Low Cut Filters for the inputs, as well as a Mute function and Phase reverse for all outputs.

- 1** AC inlet and fuse holder. Use the supplied AC cord to connect the unit to AC mains. Make sure voltage and frequency stated and set on the unit comply with your local AC supply. The fuse can be accessed by the small drawer at the AC inlet. To change the fuse, unplug the AC cord first, pull out the fuse drawer and replace the fuse **ONLY** with a fuse of **SAME** voltage and rating. If the fuse blows again after replacement, hand over the unit to qualified service personnel.
- 2** MODE SWITCH. These two switches determine whether the unit works in 2-way stereo mode, 3-way stereo mode or 4-way mono mode. Please note that depending on the position of this switch, the functional assignment of front-panel controls and rear-panel connections might change. For the front panel control function assignment, the ACTIVE CONTROL LEDs (9) indicate the setting and functional assignment. On the rear panel, please see the functional indication printed on the panel.
NOTE: Do NOT change this switch setting when the sound system is switched on.
- 3** INPUT connector (channel A and B). These are mono inputs via balanced XLR jacks.
- 4** FREQUENCY RANGE switch. This switch determines whether the front-panel rotary frequency control (12a) works either in the 44 to 930 Hz or 440 Hz to 9.3 kHz range.
- 5** LOW OUTPUT connector (channel A and B). These are the balanced XLR connectors for the low frequency band output signal. The assignment changes depending on the setting of the MODE switch (2).
- 6** MID OUTPUT connector (channel A and B). These are the balanced XLR connectors for the low frequency band output signal. The assignment changes depending on the setting of the MODE switch (2).
- 7** HIGH OUTPUT connector (channel A and B). These are the balanced XLR connectors for the high frequency band output signal in stereo 2-way mode. The assignment changes depending on the setting of the MODE switch (2).
- 8** LF SUM switch. Pressing this sums the LOW outputs (5) to a mono signal for coherence and SPL gain if subwoofers are placed together.
- 9** ACTIVE CONTROLS indicator. This row of LEDs illustrates the functional assignment of the front panel elements depending on the setting of the MODE switch (2).
- 10** INPUT GAIN control (channel A and B). This sets the main input gain with a ± 12 dB range.
- 11** LOW CUT switch (channels A and B). This switch activates the 25 Hz high-pass filter with a 12 dB/Octave slope for protection against infrasonic signals.
- 12** XOVER FREQUENCY controls (channel A and B). These controls sets the crossover frequency between the low and mid frequency bands (12a) and the mid and high frequency bands (12b). Depending on the setting of the MODE switch, the assignment changes: in stereo 2-way mode, the controls (12b) are disabled; in stereo 3-way mode all controls are enable, and in mono 4.way mode the control (12b) of channel B is disabled.
- 13** DELAY control. This control delays the LOW signal (5) by as much as 2 ms, which is useful to align the speaker systems to be in in phase.

- 14** OUTPUT LEVEL control. Sets the output level for the high/mid/low outputs respectively.
- 15** MUTE switch. Allows to mute every output individually.
- 16** PHASE switch. Allows to invert the relative output [180 degree phase change].
- 17** LIMITER THRESHOLD control. Provided the limiter is activated via the switch [18], this control sets the level threshold which determines the point from which on the limiter will start working. The threshold can be set from -6dB to infinity [limiter off].
- 18** LIMITER ON/OFF switch. Activates or deactivates the limiter.
- 19** CD HORN CORRECTION switch. This button provides a special form of frequency correction in the high frequency band [above 3.5 kHz] for constant-directivity horns.
- 20** POWER switch. Switches the unit on and off. Make sure to switch the unit off when not in use.

Connections

The RPX-3400 uses the below connector types, for which the pin assignment must comply with the following specification. Always make sure to use good connectors and cables to ensure proper operation. Balanced connections are to be preferred over unbalanced connections where applicable and feasible. Avoid unbalanced connections exceeding 2m of cable length.



Technical Specifications

Signal/Noise.....>91dB (unwgt'd 22Hz-22KHz)	Power consumption.....max. 23W
Crosstalk Damping.....>92dB	Dimensions.....W483(427)xH44.5xD162.0mm (parentheses = without rack ears)
THD.....<0.01% (Line)	Weight.....2.30kg
Frequency response.....20Hz – 20 kHz	
AC IN.....AC115V/230V~ 50/60Hz	

Maintenance and warranty

While we have chosen the best components to make this product as rugged and reliable as possible, some parts in audio products (potentiometers, faders, switches) are subject to wear which is a matter of operation cycles, and not of time. While providing a full time-based warranty according to the country's of purchase requirements on the function of the electronic circuitry, we hence have to limit the warranty on such electro-mechanical parts to 90 days from the date of purchase.

Operation

A. Connections

For connecting this unit to AC mains, please note:

- Check whether the AC mains voltage and frequency is the same as this product is specified for (see rear panel of product). Whenever the specified voltage or your AC plug should not match the local conditions, do NOT plug the AC cord into the wall outlet and contact your dealer immediately.
- Do not operate this unit without the line cord earth ground connected. To do so may increase the risk of electric shock and increase line cord conducted emissions.

For making audio signal connections, always remember that good and reliable connections are a basic requirement for good sound and reliable operation. Bad soldering of cables can result in intermittent audio signals or temporarily lost ground connections, hence always use good cables. In case of doubt about making proper connections, please see check the standard pin assignments required for proper operation in the following section of this manual.

B. Powering up

Following a proper power-up sequence protects your equipment – specifically speakers – and your ears. Follow the below procedure:

- Turn down all output volume controls of any equipment in your audio system.
- Switch on your audio sources first (Tuners, CD Players, PC's with soundcards, Tapedecks, etc.)
- Switch on the audio mixer
- Switch on any audio processor between the mixer and the amplifier(s) [if any].
- Switch on the amplifier(s).
- Turn up the audio level on your sources if such controls are provided.
- Set the audio output of your mixer to a low level.
- Set the audio output of any audio processor between the mixer and the amplifier(s) to a medium level [if any such processors].
- Turn up the volume controls of your amplifier(s) slowly.
- Make adjustments to all volume settings as needed.

For switching off, follow the inverse sequence – always switch off your amplifier(s) first, then any processors between mixer and amplifier(s), then the mixer, then the sources.

C. Use

Apart from using good equipment, good sound comes from using it correctly. Level setting mistakes are one of the common reasons why even good equipment may not perform as desired. For setting levels, please be reminded that two guidelines need to be followed:

- Avoid distortion by leaving some headroom. Never overrun any audio-equipment's inputs. Level meters and displays allow you to make sure that signals do not enter critical levels.
- Avoid unnecessary amplification by using as little attenuation as possible. For example, if you turn down the input gain of a mixer to minimum, and then increase the main output of the mixer to maximum to drive your amplifier properly, you will create unnecessary noise, as you first dispose of some already existing signal level, and then later apply amplification (tainted with noise) to make it up.

Obviously, these two requirements are marking a levelling window that the operator must match to achieve a good sound with as little distortion and noise as possible.



WARNING - HEALTH RISK

Excessive volume levels on headphones or other sound systems may cause hearing damage. Always turn the volume control to minimum when you switch the unit on, and avoid prolonged exposure to sound pressure levels exceeding 90dB.

EC Declaration of Conformity

Manufacturer: Adelto Technologies Limited
Address: Unit 2A Springfield Road, Springfield Industrial Estate
Burnham-on-Crouch, Essex CM08UA, England

We declare on our own responsibility, that the equipment

Hill Audio RPX-3400

is in conformity with the following directives and standards or regulations:

EMC Directive 2014/30/EU
EN55032:2012 (Emissions)
EN55103-2:2009 (Immunity)
EN61000-3-2:2014
EN61000-3-3:2013

LVD Directive 2014/35/EU
EN60065:2014

ROHS2 Directive 2011/65/EU

and is marked as follows:



Burnham-on-Crouch, 03.07.2016
Place and date of issuing


Authorized Signature