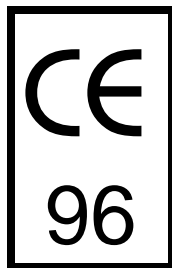


**QPX1200**

**DUAL CHANNEL  
AUDIO POWER AMPLIFIER**

# **OWNERS MANUAL**



**Hz INTERNATIONAL LTD COMBE HOUSE - STOKE ST MICHAEL - BATH -  
SOMERSET - ENGLAND**

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### **INSTALLATION**

## UNPACKING

Although the power amplifier is a rugged piece of professional audio equipment and is heavy, it is also a high specification modern electronic assembly and should be handled with care.

The packaging of the unit is specifically designed to safely transport this product. In the unlikely event of the product requiring servicing, this packaging is the safest way to transport it.

All units are factory set for 230v operation.

Units factory made for 110/120V supply are clearly marked on the back and should **not** be connected to any higher voltage power source.

## SITING THE POWER AMPLIFIER

This power amplifier has been designed for rack mounting use, in a Racking enclosure made to BS5954, IEC297 or Din 41494 standards.

- a. The unit must be mounted in the horizontal position with clear cool air flow of 10cm around each air vent. **DO NOT STAND OR USE RACKS NEAR HEATING DUCT OUTLETS, APPLIANCES OR RADIATORS.**

If the rack is placed in an enclosed area (cupboard etc.) make sure that there is plenty of rear ventilation and the air is not recycling.

- b. Rack mounting - Ears are provided for both front and rear support; a choice of mounting position is given on the front brackets ( either proud & level with the front panel or sunk by 20mm and flush with the front escutcheon.)
- c. Care is required when installing these units in a rack. It is advised to put the Rack on its back, then place all the equipment being fitted into it before fitting retaining bolts to avoid unnecessary handling damage. Rear support brackets are strongly recommended to be used on each unit, to avoid transit damage.

## FITTING A POWER LEAD & PLUG

The wires in the IEC/CEE mains lead are coloured:

Earth: Green/Yellow Neutral: Blue Live: Brown

As these colours may not correspond with the colour markings identifying the terminal in your plug proceed as follows: Green/Yellow wire must be connected to the terminal which is marked with the letter E or coloured Green. - Brown wire must be connected to the terminal which is marked with the letter L or coloured red. - Blue wire must be connected to the terminal which is marked with the letter N or coloured black.

2.

## CONNECTIONS

At the back of the amplifier you will find the following connection sockets:-

- A. Mains inlet: To connect the unit, via a mains lead, to the mains power supply.
- B. Input jacks: Inputs to the amplifiers.
- C. Output XLR's: For connection to loudspeaker.

Also on the back of the amplifier you will find:

- F. Mains fuse: 12.5 HRC 20mm.
- G. Earth Tie Switch: Couples or de-couples the chassis ground, to avoid ground loop hum when racking these units.
- H. Mono mode switch: For switching between mono and stereo modes.
- I. Bridge Mode switch: For switching between normal and bridge mode.

#### INPUT CONNECTIONS

Connecting the input signals:- Input signals may be connected to the jack inputs of each of the four channels. The signal may come from any suitable line level output, e.g., mixer or another amplifier (link output). All input connections must use shielded/screened cables. **DO NOT CONNECT WITH SPEAKER CABLES.**

The inputs are electronically balanced for those who require this facility, with the tip of the jack being 'hot' and the ring 'cold' or balanced line and the sleeve ground. However they can be used unbalanced with standard mono jack plug.

A link jack input is provided on each input channel, so that any of the four channels can be joined together or linked down to another power amplifier in the rack.

#### OUTPUT CONNECTIONS

Connecting the output signal:- Output connection to loudspeakers is made from the XLR output of each channel. Typically on the XLR outputs Pin 1 is Ground, Pin 2 is 'Hot' & Pin 3 unused.

#### POWER CONNECTION

Connecting the mains lead:- Fit the female plug of a mains lead into the connection socket on the amplifier and the male plug into a suitable mains supply socket.

### 3.

#### OPERATION

Your QPX1200 amplifier is now ready for use. Before attempting to operate it, however, it is advisable to familiarise yourself with the functions of the controls and the significance of the indications.

1. Power switch: Isolates unit from the line supply.
2. Power on: When illuminated indicates AC power is applied to unit.
3. On: Indicates the amplifier is in operation.
4. Trip: Indicates dc. voltage present on amplifier output or amplifier has reached an excessive temperature
5. Bridge: Indicates that bridge mode has been selected
6. L/R Peak: Indicates onset of distortion.
7. L/R Level: Sets the gain of each channel of the amplifier.

## PEAK INDICATOR.

When the channel peak indicator lights it is indicating full power of the amplifier and the onset of distortion. It not recommended to allow these to light continuously, because although it sounds undistorted to the ear, long term damage to the loudspeakers, & horns may occur. Reduce your input level, so the lights flash occasionally

***If this is not enough volume, then you are underpowered for your application and should consider increasing your power amp size before damage occurs to the rest of your system.***

## POWERING UP

You can turn the amplifier on or off either at the mains supply socket, or by using the green neon rocker switch on the left hand side of the front panel.

Please note: it is good practice to turn down the volume controls during switch on as precaution against speaker damage. Which can be caused by instant high level feedback from an open channel mixer & mic, or system instability.

On initial switch on, the 'trip indicator' will light; this should go out after a few seconds (when the amplifier supplies have stabilised). It is not recommended to switch the amplifier on and off rapidly several times over a short period.

## MONO OR STEREO MODE

Select either mono or stereo mode can be made at any time, using the button at the rear of the unit. In the stereo mode, the left and right channels behave independently. In the mono mode the left and right input signals are summed together and halved and fed to both left and right amplifiers. Mono mode is indicated by the depressed button on the rear of the unit.

4.

## BRIDGE MODE

Bridge mode can be selected by using the button at the rear of the unit, the selection will be indicated on the front by the yellow lamp. The 'CH1 & CH3 INPUTS' are the only operative inputs, and the 'CH1 & CH3 VOLUMES' are the only operative gain controls for each of the bridged pairs. The total power of either of the amplifier pairs can then be developed into an 8 ohm load connected positive to pin 2 on the 'CH1 OUTPUT' XLR and negative to pin 2 on the 'CH2 OUTPUT' XLR, or similarly 'CH3 OUTPUT' XLR and negative to pin 2 on the 'CH4 OUTPUT' XLR.

**PLEASE NOTE - IF NOT SURE ABOUT THE USE OF THIS FUNCTION SEEK PROFESSIONAL ADVICE FROM YOUR DEALER.**

### TRIP INDICATOR

Except on switch on, this indicator should never light. In extreme overload conditions it may come on, but is usually preceded by very heavy distortion. If this happens then turn down amplifier volumes, then wait until the amplifier has cooled, (indicated by cold air coming out of the air outlet), turn the amplifier volumes back to a reasonable setting, taking note of the peak indicators.

If the problem persists, firstly the cooling arrangement for the amplifier should be checked, i.e., is the air flow obstructed by something against the grilles, or is the amplifier enclosed in a sealed rack with no air vents. If the trip light fails to extinguish after 30 seconds from cold switch on, then there is an internal fault in the amplifier and the relevant speaker(s) have been disconnected to protect them. Advice should be sought from your dealer.

### AMPLIFIER MAINTENANCE

The amplifier contains no use serviceable parts inside. Maintenance should be mainly preventative, taking care to follow previous instructions, to ensure long term reliability. Due attention should be paid to the condition of all speaker and mains interconnection leads and connectors. If required the outside of the amplifier can be cleaned using a damp, lint free cloth. Do not clean using solvents, detergents or abrasives.

5.

### TECHNICAL SPECIFICATION

#### POWER OUTPUT QPX1200

Load	Per Channel		
	<0.1%	<5%	PEAK
8ohm	210	230	360
4ohm	300	320	560
8Ω bridged	590	685	990

### TEST PERIMETERS

Powers in watts r.m.s per channel using 1 kHz tone.  
The peak powers are short term maximum peak powers.  
All other power measurements are long term continuous tone.

FREQUENCY RESPONSE: 3.5 Hz - 22 kHz + Odb - 3db

INPUT SENSITIVITY: OdBm 0.775v

DAMPING FACTOR > 100 @ 100Hz

DISTORTION: 0.05% @ 1Khz

INPUT IMPEDANCE: 35Kohms

NOISE LEVEL: -95dBm

CONTROLS FRONT: Power On / Off Green Neon rocker switch.  
Channels 1, 2, 3, 4. rotary volume controls, & associated  
channel clip indicators, bridge mode indicators, fan run  
indicator, 2 fault indicators.

CONTROLS REAR : 2 Bridge mode switches, 2 mono / stereo mode switches.  
PROTECTION: Individual channel protection disconnects speakers  
when 800mV, DC is present on output. Fuses also  
provide short circuit protection.

THERMAL: Automatic shutdown @ 150 deg C ( Auto reset)

COOLING: 2 fans speed change switched on at 50 deg C.

INPUTS:

1 IEC Mains socket for A/C input

8 stereo input/link jacks balanced line, 2 per ch

OUTPUTS: 4 XLR male sockets 1 per channel

MAINS FUSE: 12.5A HRC 20mm.

POWER FUSES: 4 x 10A 20mm. (internal)

SIZE: 483 X 90 X 290. (19" x 3.5" x 11+" )

WEIGHT: 17Kg ( 38lbs. )

MAINS SUPPLY: 240/220v or 120/110v. A.C. 50/60 Hz  
1.4KVA @ full power.

## 6.

### **FAULTS AND THEIR LIKELY CAUSES**

Although the greatest care has been taken in the manufacture of the power amplifier, the possibility remains that faults could occur during use or difficulties could be experienced during initial installation.

The cause, however, will rarely be found to be internal to the amplifier. Below is a list of symptoms and possible causes. Some of the suggested causes may appear obvious but they can be easily overlooked.

Under no circumstances should you open the amplifier ; this is dangerous, will expose high voltages, and will invalidate all rights under the guarantee..

1. After turning on the 'power' switch the 'power' indicator does not light-  
The mains plug is not pushed far enough into the amplifier - There is not supply at the mains socket. Check using an alternative electrical appliance.

The mains fuse is broken, located on the rear of the amplifier, replace using 12.5A 20mm fuse.

2. When volume controls are advanced no sound is heard-  
Wait 10 seconds, amplifier may not be stabilised after switch on.  
No input signal connected to input socket.  
No speakers connected to output sockets.  
Mono input signal not connected to correct channel. Either move input plug to other channel, or select 'mono mode'.

3. Even when the output is low, the output sounds distorted-  
The speaker leads are shorted, either due to faulty connection of plug or damaged cables.

4. Output distorted at medium volume setting-

Amplifier is running too hot, ensure free flow of **cool** air, into and out of the unit.(see section a. of Siting the power amplifier)

5. 'Trip' indicator is lit and no sound is heard-

Unit has overheated. Ensure free air flow into and out of the unit. The amplifier will reset itself when cool. Or the amplifier has developed an internal fault, please consult your dealer.

*As a general rule jack plugs and sockets are very reliable especially if they are regularly connected and disconnected. In situations where they are subject to prolonged static use - it is good practice to clean the plugs and to clean the sockets by taking a new plug and waggling it in & out. this will stop any build up of any corrosion.*

7.

## **GUARANTEE**

**YOUR EQUIPMENT IS GUARANTEED FOR A PERIOD OF TWELVE MONTHS TAKEN FROM THE DATE OF PURCHASE OF THE PRODUCT AGAINST ANY DEFECTS DUE TO FAULTY MATERIALS OR FAULTY MANUFACTURING. DURING THIS PERIOD, REPAIRS TO THE EQUIPMENT WILL BE CARRIED OUT WITHOUT CHARGE FOR LABOUR OR MATERIALS BY ANY AUTHORISED DEALER OR THE FACTORY SUBJECT TO THE FOLLOWING CONDITIONS.**

1. The fault must be entirely due to faulty materials or faulty manufacture.
2. The defect must not have been caused by bad installation, accidental damage, misuse or failure to comply with the instructions given in this users manual.
3. The equipment must be used solely for audio applications and is subject to fair wear and tear, for commercial usage.

4. If at any time during the guarantee period part or parts of the equipment are replaced with a part or parts not supplied or approved by us or if the equipment has been dismantled or repaired by any person not authorised by the us, then guarantee shall immediately cease and become void.
5. Evidence of the date of purchase (invoice, receipt or finance agreement) must be produced at the service department to obtain the benefit of this guarantee. Any carriage charges relating to the guarantee will be the responsibility of the purchaser.
6. This guarantee applies to the original purchaser only and the equipment must have been purchased or financed from new, the guarantee cannot be assigned or transferred.
7. Any defective part that has been replaced shall become the property of the company and the right is reserved by the company to replace the equipment or repair it at the option of the company.
8. This guarantee applies to equipment purchased and used within the E.E.C. The importers of equipment in non E.E.C. countries are responsible for the guarantee of this equipment. Parts required under guarantee are free. Shipping charges for components will be charged at cost.
9. Knobs, potentiometers, switches and chassis mount connectors are not covered under the terms of this guarantee.
10. The guarantee does not cover equipment that is in industrial use or which are the subject of rental or hire agreement.
11. The guarantee shall become void if the equipment is at anytime used on any supply circuit or voltage range other than that specified on the equipment.
12. THIS GUARANTEE DOES NOT IN ANY WAY AFFECT YOUR STATUTORY RIGHTS AS A CONSUMER WITHIN THE E.E.C.