

AX2300 ACTIVE CROSSOVER.

Installation

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The AX2300 is designed to be mounted in standard 19" equipment racks and occupies one unit of rack space (1.75"/44.5mm).

The unit can also be used free standing. When installing the crossover, avoid close proximity to large power amplifiers or power supplies which may induce hum into the sensitive circuitry of the crossover.

Input details.

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The inputs of the AX2300 are connected via XLR-3-31 type connectors. The input circuit is electronically balanced and where possible, the balanced mode is preferable. If the input is used in the unbalanced mode, pin 3 must be linked to pin 1 (0v). The input is then connected to pin 1 (ground) and pin 2 (hot).

When used in the balanced mode, pin 1 is ground, pin 2 is in-phase, pin 3 in non phase.

Input impedance is 20K ohms balanced, 10K ohms unbalanced.

Provided pin 3 is grounded in the unbalanced mode, the input sensitivity is 0dBm (775mV) for both balanced and unbalanced modes.

Output details.

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The crossover outputs are connected via XLR 3-32 type connectors. The output circuitry is electronically balanced but can be used in the unbalanced mode with no loss of gain.

In the balanced mode, Pin 1 = ground, Pin 2 = phase, Pin 3 = non phase.

In the unbalanced mode, Pin 3 is connected to Pin 1. The output is then: Pin 1 = ground, Pin 2 = phase (hot). The minimum recommended load impedance is 600Ω in the unbalanced mode, and 1200Ω in the balanced mode.

Plug-in filter modules

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The AX2300 is normally supplied with the filter modules factory fitted. If for some reason these need to be retro fitted, or a change of frequency is required, follow these instructions:

Remove the top cover.

Position the AX2300 with the front panel towards you. The plug-in module on the left, marked "Lower frequency filter module" contains all the filter circuitry for the lower frequency on both channels A & B. Remove the 4 securing screws from the PCB and lift the module vertically away from the main PCB.

To fit a filter module, carefully position the PCB connectors and check the alignment of the fixing screws. Ease the module into position with uniform pressure, when in place, fit the four M3 fixing screws.

The above procedure, can be repeated for the higher frequency.

2 Way Operation

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If the AX2300 is to be used in the 2 way mode, only one filter module is required. This module contains the filter circuitry for both channels.

Fit the chosen filter module in the position marked "Lower frequency filter module". No module must be fitted in the position marked "Upper frequency filter module". Fit 2 wire links between the pins detailed on the main PCB, and the unit is now ready for 2 way use.

In this mode, the higher frequency band is controlled by the middle channel controls and output socket.

Sub-sonic filter

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Each channel has a sub-sonic filter operating at 20Hz with a slope of 24dB/octave. This provides a high level of protection to bass loudspeaker systems such as reflex or horn loaded enclosures which typically have a greatly reduced acoustic loading below the cut off frequency. It also reduces the possibility of sub-sonic acoustic feedback in discotheque sound systems.

Gain controls

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Each frequency band has its own gain control with a range of -12dB to +6dB, a centre detent operates in the unity gain position.

Phase switch

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Each channel has the benefit of a phase reverse switch which introduces a 180° phase shift when the switch is depressed, the LED adjacent to the switch will illuminate to indicate "reverse phase operation". This facility can be used to compensate for room acoustics or speaker alignment and is a useful aid to system set-up.

Mute switch

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Each frequency band can be muted independently by depressing the channel mute switch. The LED adjacent to the switch will illuminate when the channel is muted.

This facility allows each channel to be monitored independently, which can be very useful to assist fault finding and speed up setting up procedures.

Earth link Switch

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In some installations, it may be necessary to isolate the crossovers technical earth from the system mains earth in order to prevent ground loops. In this instance move the earth link switch away from the mains input socket. If there is no evidence of a ground loop, the switch should be positioned towards the mains input socket, when the earths will be linked.

Tamper proof cover

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This optional cover is designed to prevent unauthorised adjustment of the crossover. The cover totally envelops the front panel controls and switches, with the mains On LED visible through a small hole provided in the front panel. The cover is supplied with mounting pillars which need to be fitted in the holes provided in the front panel, the cover is then positioned over the mounting pillars, and secured with the button head allen screws.

Mains supply

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The crossover will operate satisfactorily with input voltages in the range of 200 to 240 volts. A provision has been on the printed circuit board to operate the unit on voltages in the range 100 to 120 volts. This modification should be carried out by qualified technical personnel. Details are clearly printed on the PCB.

A 3 pin IEC power connector and mains fuse are provided on the rear panel, a screwdriver is required to remove the bayonet type fuse carrier.

This equaliser must operate with mains earth connected.

Output details.

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The crossover outputs are connected via XLR 3-32 type connectors. The output circuitry is electronically balanced but can be used in the unbalanced mode with no loss of gain.

In the balanced mode, Pin 1 = ground, Pin 2 = phase, Pin 3 = non-phase.

In the unbalanced mode, Pin 3 is connected to Pin 1. The output is then Pin 2 = ground, Pin 2 = phase (hot). The minimum recommended load impedance is 600Ω in the unbalanced mode, and 1200Ω in the balanced mode.

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