ALLEN&HEATH

XONE:23

USER GUIDE

Publication AP9250_1

EARTHING

The connection to earth (ground) in an audio system is important for two reasons:

SAFETY - To protect the operator from high voltage electric shock, and

AUDIO PERFORMANCE - To minimise the effect of earth (ground) loops which result in audible hum and buzz, and to shield the audio signals from interference.

For safety it is important that all equipment earths are connected to mains earth so that exposed metal parts are prevented from carrying high voltage which can injure or even kill the operator. It is recommended that a qualified system engineer check the continuity of the safety earth from all points in the system including microphone bodies, turntable chassis, equipment cases, and so on.

The same earth is also used to shield audio cables from external interference such as the hum fields associated with power transformers, lighting dimmer buzz, and computer radiation. Problems arise when the signal sees more than one path to mains earth. An 'earth loop' (ground loop) results causing current to flow between the different earth paths. This condition is usually detected as a mains frequency audible hum or buzz.

To ensure safe and trouble-free operation we recommend the following:

Have your mains system checked by a qualified electrician. If the supply earthing is solid to start with you are less likely to experience problems.

Make sure that turntables are correctly earthed. A chassis earth terminal is provided on the console rear panel to connect to turntable earth straps.

Use low impedance sources such as microphones and line level equipment rated at 200 ohms or less to reduce susceptibility to interference. The console outputs are designed to operate at very low impedance to minimise interference problems.

Use balanced connections for microphones and mix output as these provide further immunity by cancelling out interference that may be picked up on long cable runs.

Do not unbalance the Xone:23 XLR outputs by shorting pin 3 to ground as this may damage the circuitry; for unbalanced operation connect the hot signal to pin 2 and the ground to pin 1. Leave pin 3 floating.

Use good quality cables and connectors and check for correct wiring and reliable solder joints. Allow sufficient cable loop to prevent damage through stretching.

If you are not sure ... Contact your service agent or local Allen & Heath dealer for advice.

SERVICING

How to replace the crossfader

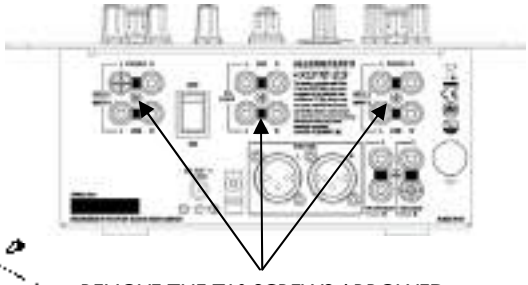
If the crossfader is subject to a lot of use it will, in time wear out and need replacing. Intermittent or noisy operation is an indication that it is becoming worn. Using a propriety fader cleaner such as CaigLube might temporarily restore use, but DO NOT use on a new fader as it will wash away the factory applied grease.

Warning! Dismantling your mixer could invalidate the warranty; if you are unsure of your ability to safely carry out this work then it is advised that you leave it to a qualified service technician.

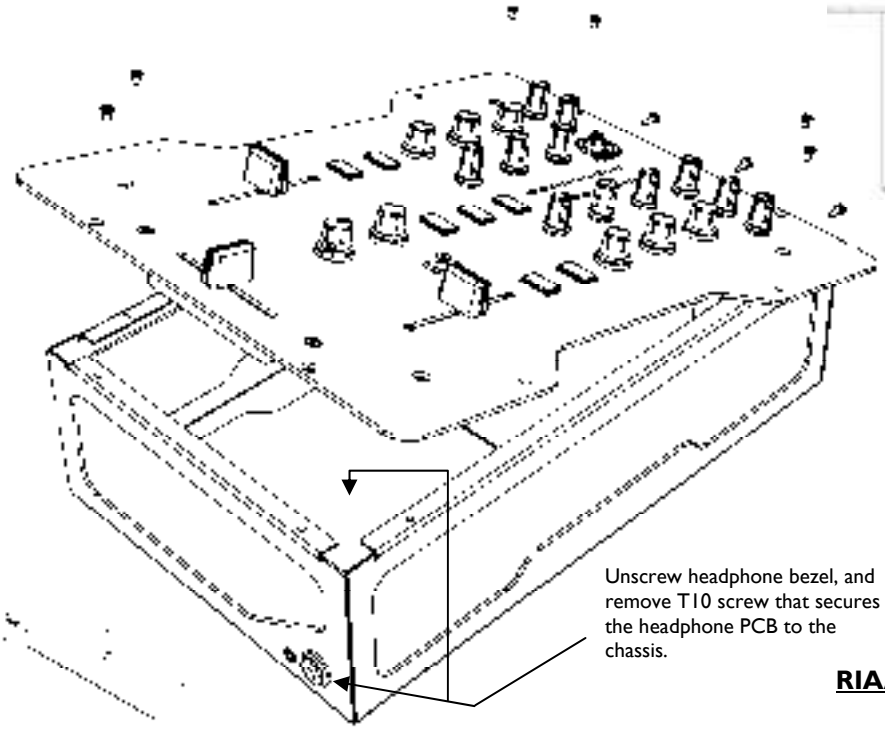
Tools you will need are T10, and T8 Torx screwdrivers. Ensure that the power supply has been turned off and disconnected from the unit. Using the T10 torxdriver remove the three screws located in the centre of the channel input and FX loop connectors (see illustration), then using the T8 torxdriver remove the 8 screws that hold the front panel to the chassis. Now carefully lift the front edge of the panel up until the PCBs clear the chassis and pull the whole assembly forward slightly until the connectors at the rear are free from the chassis. You can now lift the front panel up to gain sufficient access to replace the crossfader.

If you wish to completely remove the front panel assembly you will need to unscrew the 1/4" headphone bezel using an 11mm or 7/16 AF socket, and remove the T10 screw that secures the headphone PCB to the chassis. Carefully unplug the multi-way harness from the connector PCB and lift the front panel away from the chassis.

Reassembly is a reverse of this procedure. Take great care to ensure that no harnesses become trapped and that all connectors are fully pushed home. Replace the screws and test the mixer for correct operation.



REMOVE THE T10 SCREWS ARROWED



Unscrew headphone bezel, and remove T10 screw that secures the headphone PCB to the chassis.

To Replace the crossfader

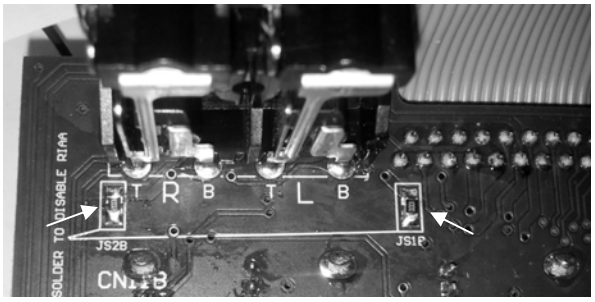
Using the T8 driver, remove the 2 screws either side of the crossfader and lower the crossfader mounting plate - unplug the 4way harness from the crossfader PCB, and unscrew the fader from the mounting plate

The mounting plate is designed to allow for fitment of the contactless Innofader and can be fitted in two different positions depending which fader is being fitted.

The standard fader can be ordered under A&H part number 004-503JIT

The Innofader can be ordered under part number 004-504JIT

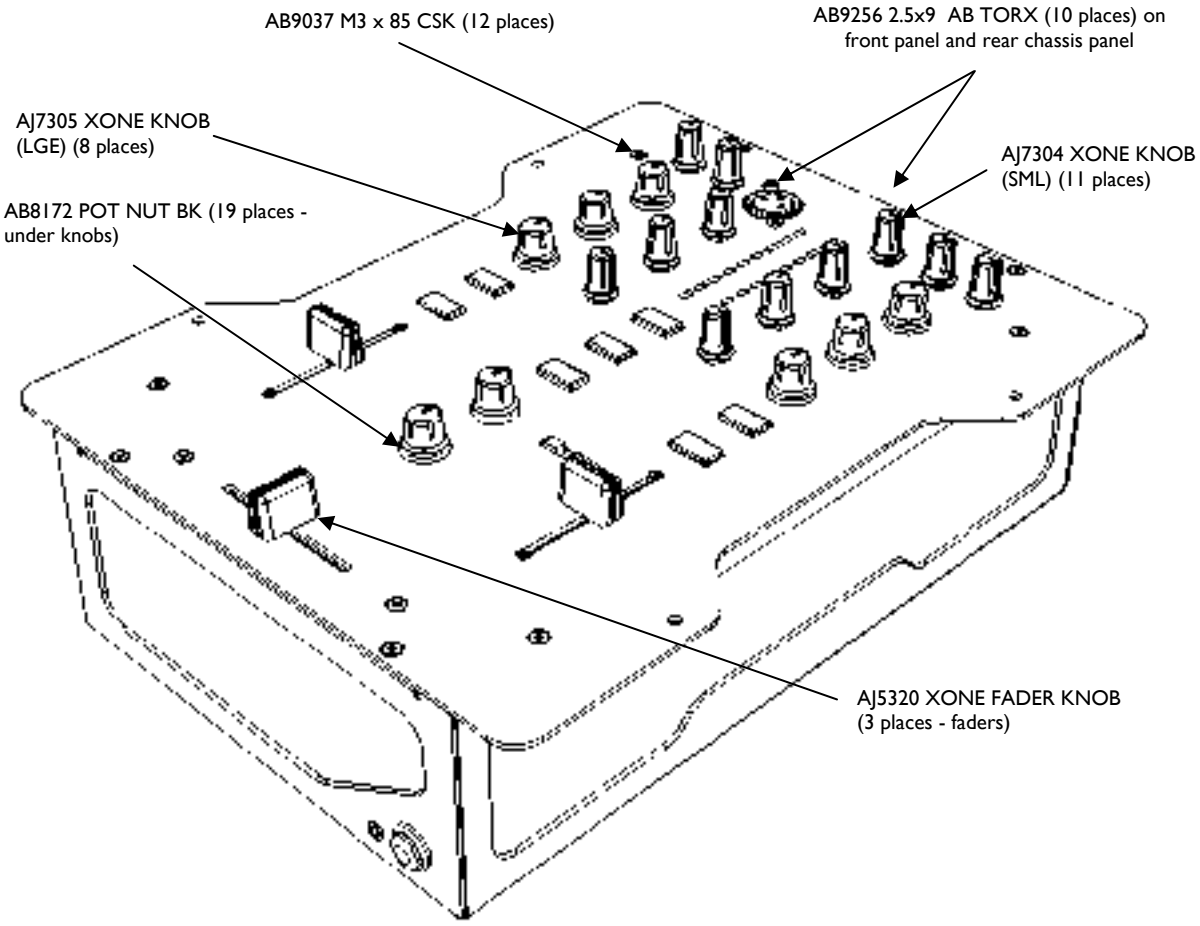
RIAA input options



If the RIAA input level is too low, or you wish to convert them to Line level. To increase the gain by 6dB, remove the resistors arrowed and link the Pads with solder. These resistors are located on the underside of the front panel PCB, directly behind the Input RCA connectors

To convert to Line level, remove the resistors and leave the Pads unsoldered.

USER-REPLACEABLE PARTS



The diagram above shows all of the replacement parts that can be ordered from your local technical support, or direct from Allen & Heath, for the Xone:23. When ordering please quote the part number(s) of the required parts - this makes life easier for us!

See the previous page for information on replacing the crossfader, and for replacement cross-fader assembly numbers.

FAULT FINDING

No sound from mixer

Check that the unit is powered on, and that an audio signal is connected to a channel input.

Check that the Input level controls are turned clockwise at least to the centre position and that the music sources connected are in the correct inputs (Inputs 1 - 3 for turntables, Inputs 2 - 4 for CD players).

Check that the EQ controls are in the centre position.

Turn On the Channel CUE switch and raise the input channel LEVEL control until you see the meters displaying the music signal.

Raise the channel fader, and ensure that the crossfader is towards the channel that is receiving the audio signal.

Turn up the MASTER, MONITOR or HEADPHONE level controls, depending on what output your amplifier is connected to, or if you are monitoring through headphones.

External effects unit can't be heard

Check that the Effects unit is connected correctly (see page 5) and switched on - the SND on the rear panel of the mixer should be connected to the input socket on the external effects unit, and the output from the effects unit should be connected to the RTN.

Check that the EXT - ON switch is on (illuminated RED) and that the channel FILTER switch is ON (illuminated BLUE).

Signal is loud and distorted

Check that the audio source is connected to the correct input; i.e. don't connect a CD player to the PHONO input.

Adjust the channel input LEVEL so that the meters peak the +3 or +6 LEDs. If the red +10 meter LED comes on, turn down the channel LEVEL control.

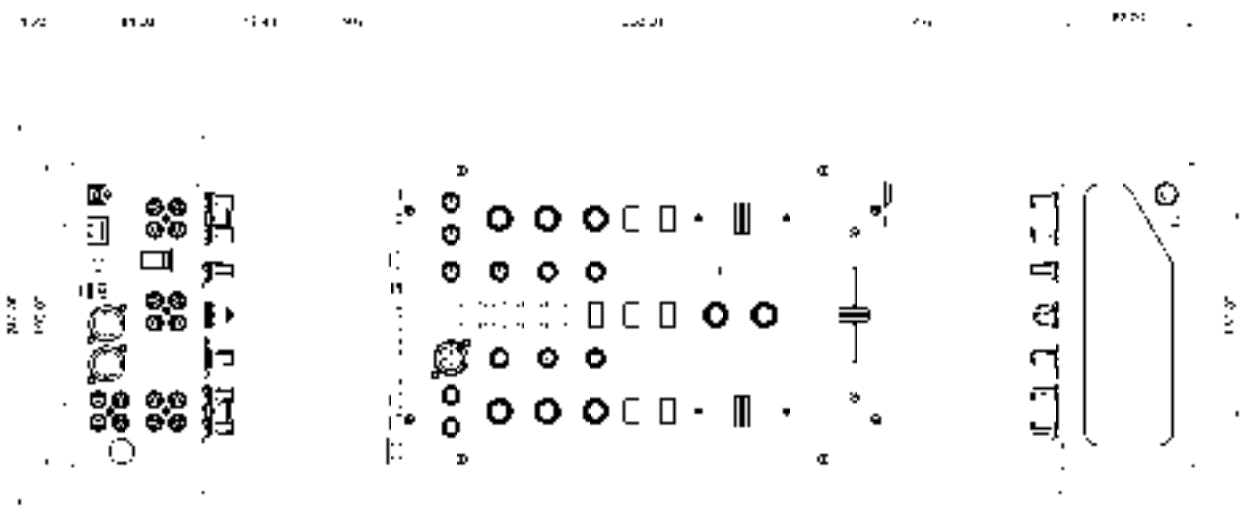
SPECIFICATIONS

Connections

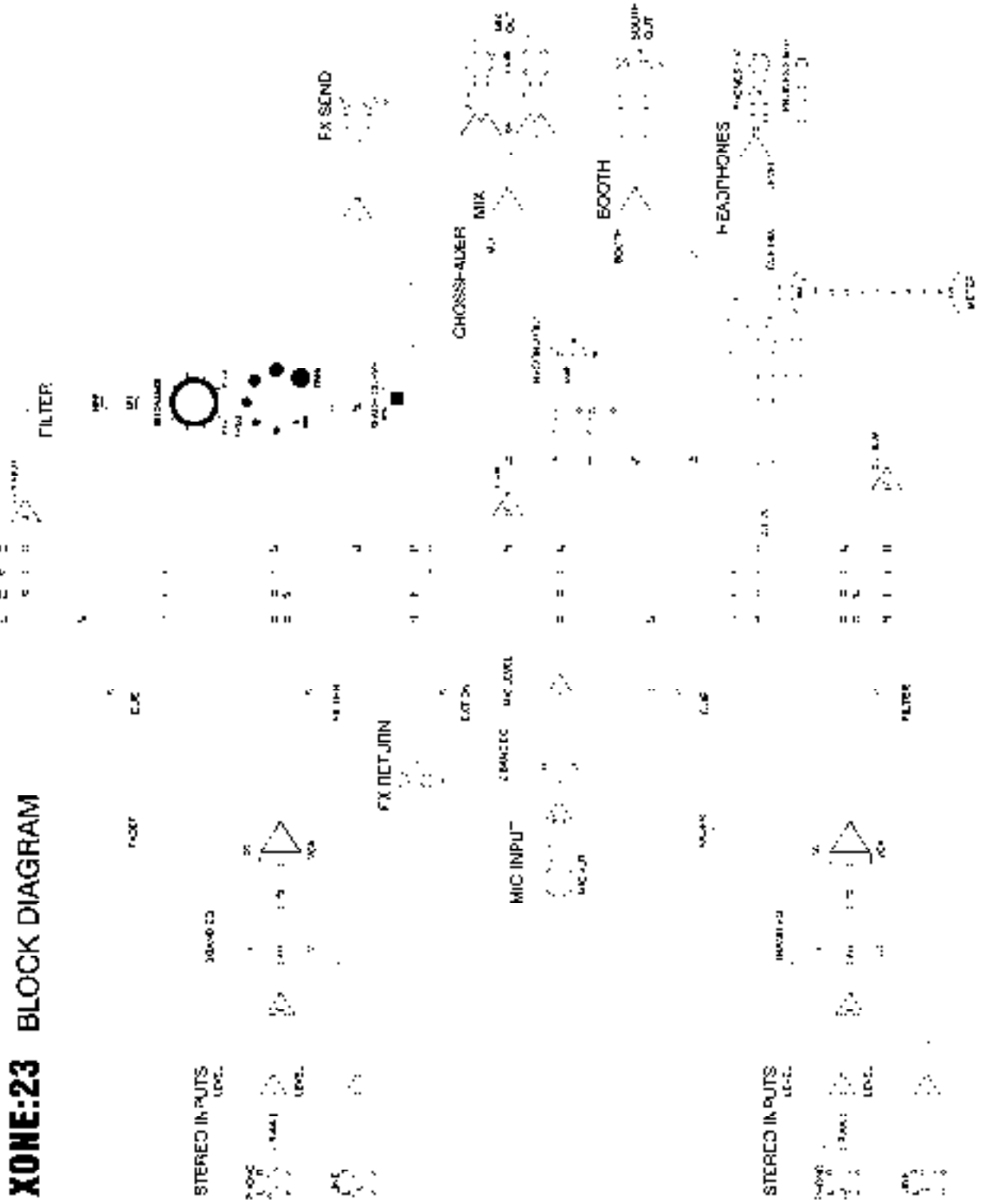
Inputs

	Connection	Impedance	Nominal Level	Maximum Level
Phono	RCA	47K/330pF	7mV-100mV	
Line	RCA	20K ohm	-10 to +20dBu	
FX RTN	RCA	10K ohm	0 to +20dBu	
Mic	XLR	<2K ohm	-42 TO –12dBu	
Outputs				
Main Mix	Balanced XLR	100 ohms	+4dBu	+28dBu
Monitor	RCA	100 ohms	-2dBu	+22dBu
Record	RCA	100 ohms	-2dBu	+19dBu
FX SND	RCA	100 ohms	-2dBu	+19dBu
Headphones	3.5mm and 1/4" TRS Jacks	1 ohm		200mW RMS into 30 ohms

Performance			
Distortion	Main Mix out	+10dBu	0.01% THD+N
Noise 22-22Khz	Main Mix out	unity	-85dBu un-weighted
Fader shut off	Channel fader		>-80dB
Xfade shut off	Xfader		>-80dB
Frequency Response		10Hz to 50kHz	+/-0dB
Dimensions		**Weight**	2.7kg (6lb)
		Weight Packed	4kg (8.8lb)



BLOCK DIAGRAM



PRODUCT REGISTRATION

Registering your product

Please go to www.allen-heath.com/register.asp and register your product's serial number and your details. By registering with us and becoming an official Registered User, you will ensure that any warranty claim you might make is actioned quickly and with the minimum delay.

Alternatively, you may either copy or cut off this section of the page, fill in the details, and return it by mail to:
Allen & Heath Ltd, Kernick Industrial Estate, Penryn, Cornwall TR10 9LU, UK

ALLEN&HEATH PRODUCT REGISTRATION

Thankyou for buying an Allen & Heath product. We hope that you're happy with it and that you enjoy many years of faithful service with it.

SERIAL NUMBER	

Please return this section of the card by mail and retain the other part for your records. You can also register online at www.allen-heath.com. Thanks for your help.

Your Name:

Company Name:

Address 1:

Address 2:

Town/City: County/State:

Country: Postcode/Zip:

Telephone:

Email:

Why did you choose this console?

Which other products did you you consider before choosing A&H?

Is there any thing you would like to improve on this mixer?

What audio magazines do you read?

If you were going to design a mixer for your work, what are the 6 most important features it should have (in order of importance)

1	2
3	4
5	6

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