



ALLEN & HEATH

Service manual

Xone:DB4

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Allen & Heath Limited

Kernick Industrial Estate, Penryn, Cornwall, TR10 9LU, UK

<http://www.allen-heath.com>

Limited One Year Warranty

This product is warranted to be free from defects in materials or workmanship for period of one year from the date of purchase by the original owner. To ensure a high level of performance and reliability for which this equipment has been designed and manufactured, read this User Guide before operating. In the event of a failure, notify and return the defective unit to ALLEN & HEATH Limited or its authorised agent as soon as possible for repair under warranty subject to the following conditions

Conditions of Warranty

The equipment has been installed and operated in accordance with the instructions in this User Guide. The equipment has not been subject to misuse either intended or accidental, neglect, or alteration other than as described in the User Guide or Service Manual, or approved by ALLEN & HEATH. Any necessary adjustment, alteration or repair has been carried out by ALLEN & HEATH or its authorised agent. This warranty does not cover fader wear and tear. The defective unit is to be returned carriage prepaid to ALLEN & HEATH or its authorised agent with proof of purchase. Units returned should be packed to avoid transit damage. In certain territories the terms may vary. Check with your ALLEN & HEATH agent for any additional warranty which may apply.

For further assistance please contact our distributor or your territory.

<http://www.allen-heath.com/UK/distributors.asp>

Release notes for this issue

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SOFTWARE & FIRMWARE

SPECIFICATION

DEVELOPMENT CHANGES

NOTE: These changes have been implemented at the factory as part of our ongoing development policy.

They are not critical to the basic function of the unit.

It is for the owner / service engineer to decide to update a unit with development changes.



Servicing Precautions – General Notes

Service personnel:

Service work should be carried out by technically qualified service personnel only. Mains power is dangerous and can kill. Do not attempt to work on a linear or switched mode power supply if you are not suitably qualified to do so. Do not attempt to repair surface mount circuit assemblies unless you are suitably qualified and have the necessary facilities to do so. Replacement circuit assemblies can be ordered.

Service facilities:

Ensure a suitably sized work surface is available. Ensure this is clear of dirt, debris and obstructions which may damage the equipment surfaces. Ensure adequate lighting. Use the correct tools for the job and ensure they are in good working order. Ensure all workshop safety requirements are adhered to.

Service information:

Check that you have all the information you need before starting the service job. Refer to the Allen & Heath web site or contact Allen & Heath technical support for details on the latest information. Full technical information can be downloaded from the web site Distributor Zone (password required).

Mains power:

Connect the equipment to mains power only of the type described in the user guide and marked on the rear panel. The power source must provide a good ground connection. Ensure you always use an isolation transformer when working on any mains power supply unit.

Mains cord and fuse:

Use the correct power cord as supplied with the equipment. Do not remove or tamper with the ground connection in the power cord. Heed the Important Mains Plug Wiring Instructions printed in the user guide if it is necessary to rewire the mains cord. Always replace the equipment mains fuse with the correct type and rating as described in the user guide and marked on the equipment panel.

Opening the unit:

Switch off and remove the mains power cord before opening the equipment. Ensure all power supply covers and safety shields are in place before applying power with the unit open for diagnostic fault finding.

Closing the unit:

Before finishing, check the quality and accuracy of the service work carried out. Remove any dirt or debris as this may cause equipment failure in the future. Ensure all assemblies, harnesses and connectors are correctly aligned and plugged in. Ensure that jumper settings and control configurations are correctly set according to the requirements of the customer.

Continued -

Testing the unit:

Before operating the equipment, read and adhere to the Important Safety Instructions printed in the user guide. Test that the service work has been successfully carried out.

Shipping the unit:

Use adequate packing such as the original packaging or purpose designed flight case if you need to ship the unit. To avoid injury to yourself or damage to the equipment take care when lifting, moving or carrying the equipment.

Operation:

To test the console make sure it is connected as described in the user guide. Check that the voltage setting marked on the rear panel is correct for the local mains supply.

Fault finding:

For effective fault diagnosis trace the signal flow through the circuit path. Refer to the system block diagram. Replacement circuit assemblies are available from Allen & Heath.

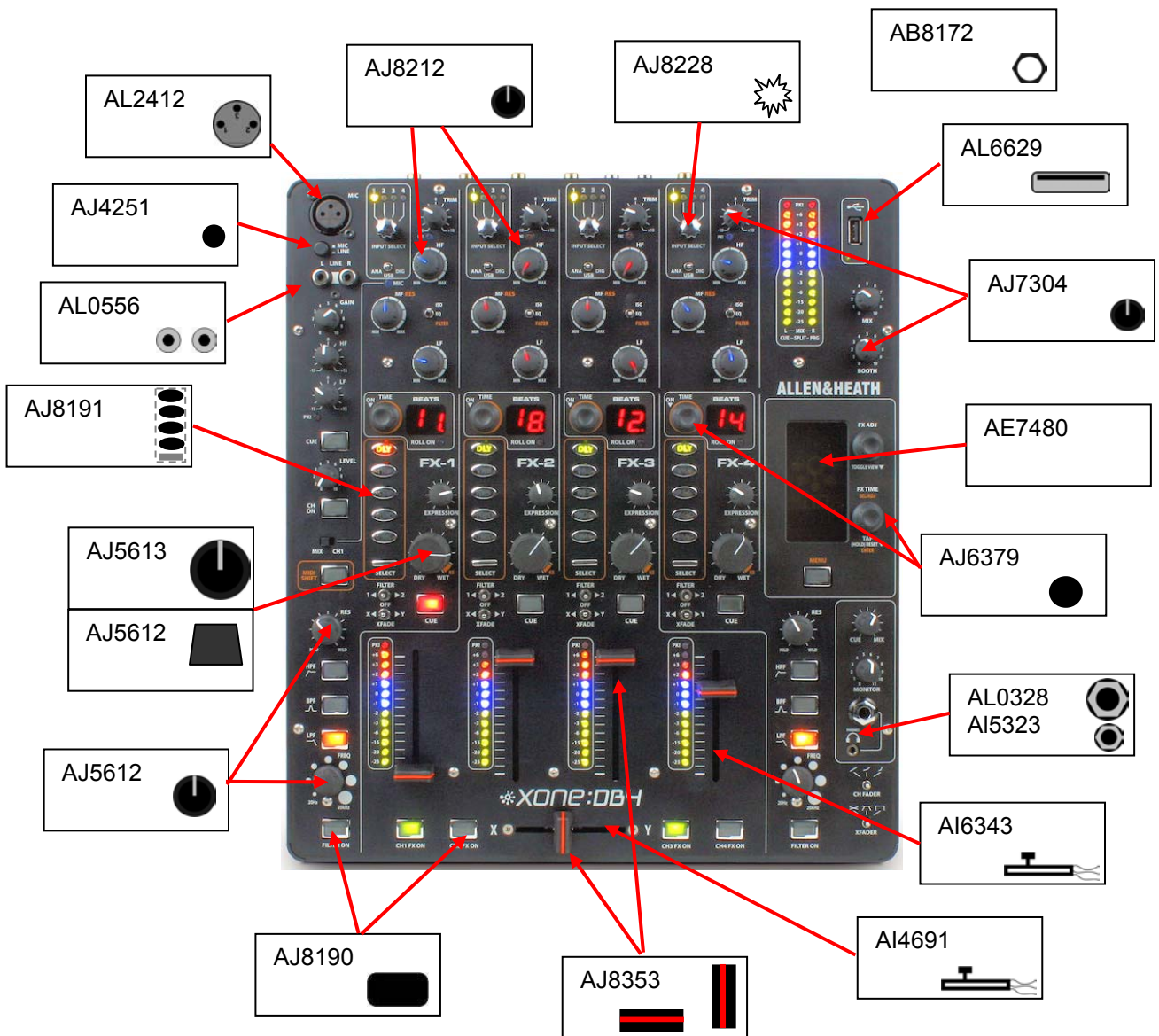
PARTS IDENTIFICATION

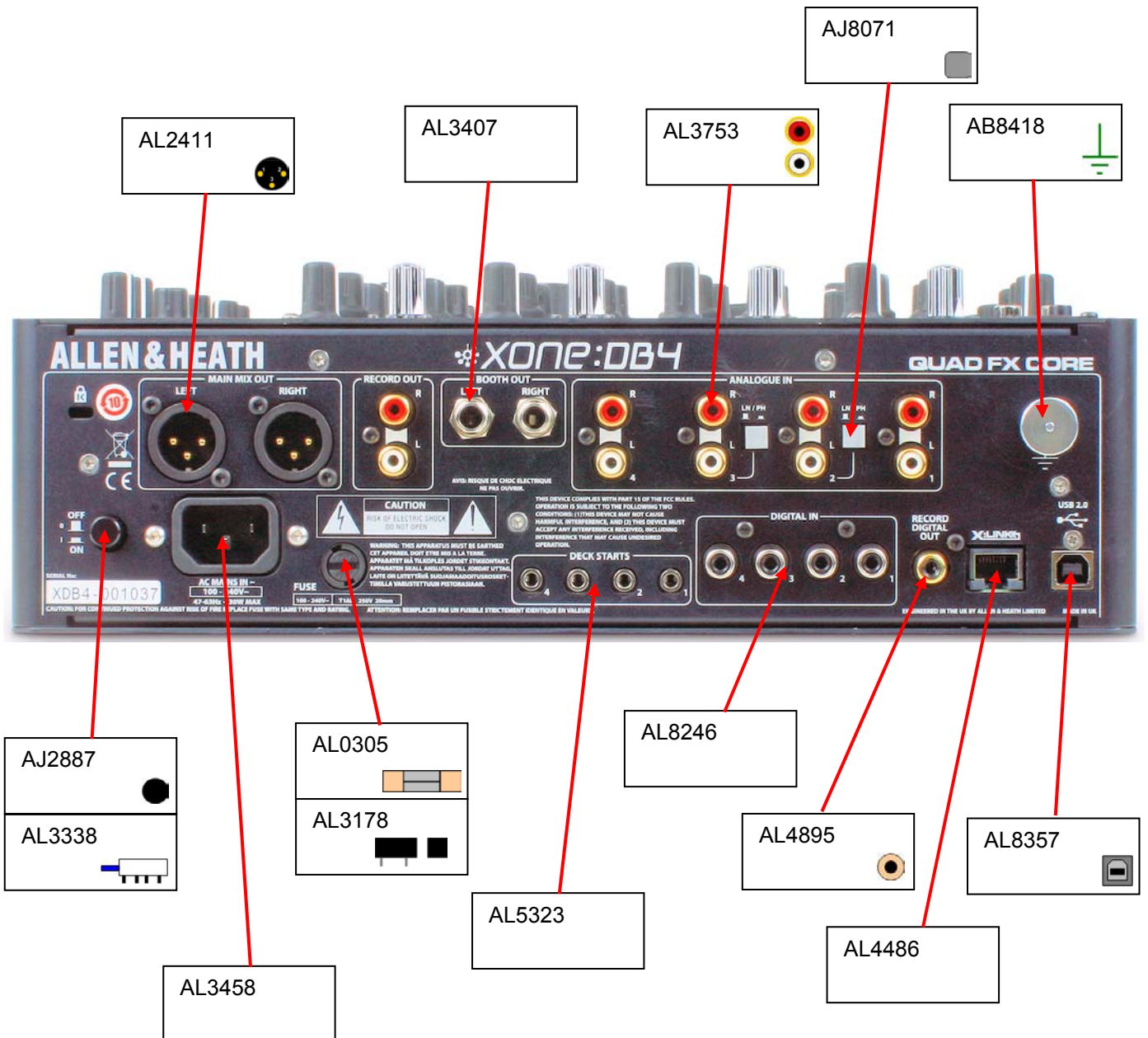
How to order parts

Parts must be ordered from our distributor in your territory. A list of international distributors can be viewed at <http://www.allen-heath.com/UK/distributors.asp>

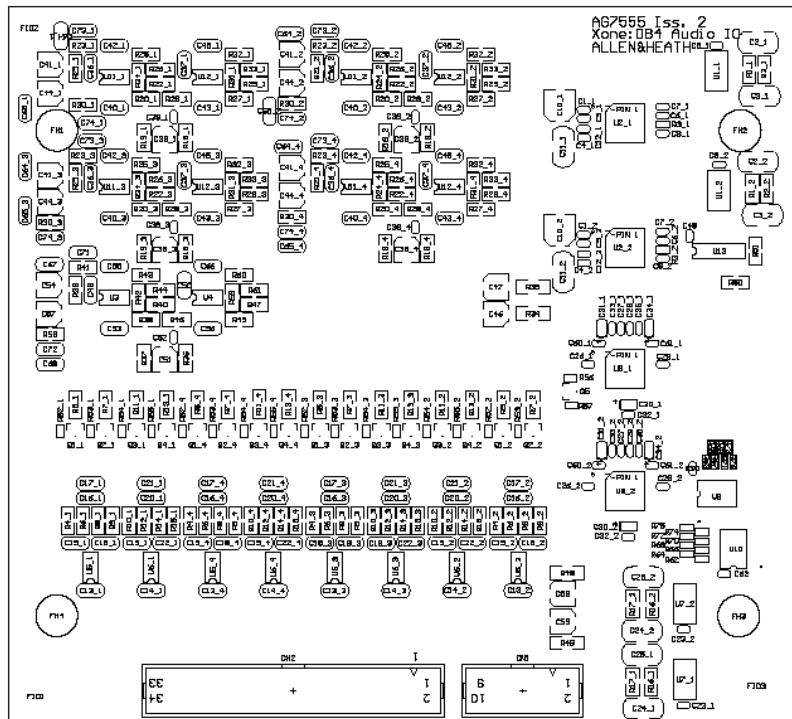
UK parts must be ordered through an appointed A&H dealer or service centre. A list of UK service centres can be viewed at http://www.allen-heath.com/UK/service_centres.asp

EXTERIOR PARTS

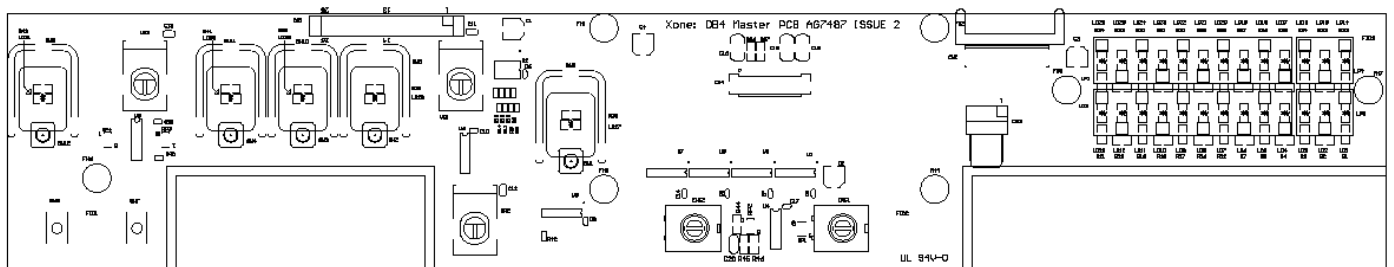




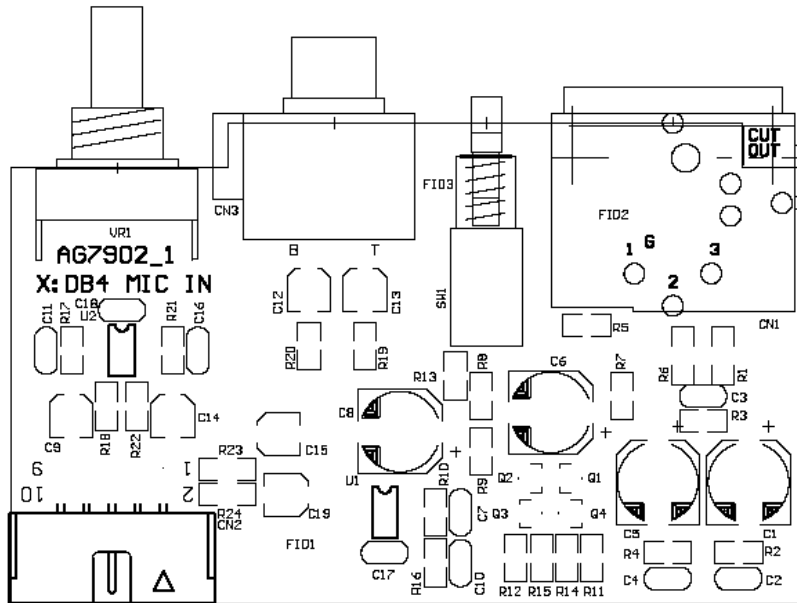
INTERIOR PARTS For identification only. Due to the complexity of these PCBs and the need to protect our digital audio circuitry, we do not publish all schematics for this product. Schematics for mic in, connector and PSU are published on distributor/service access pages on our website.



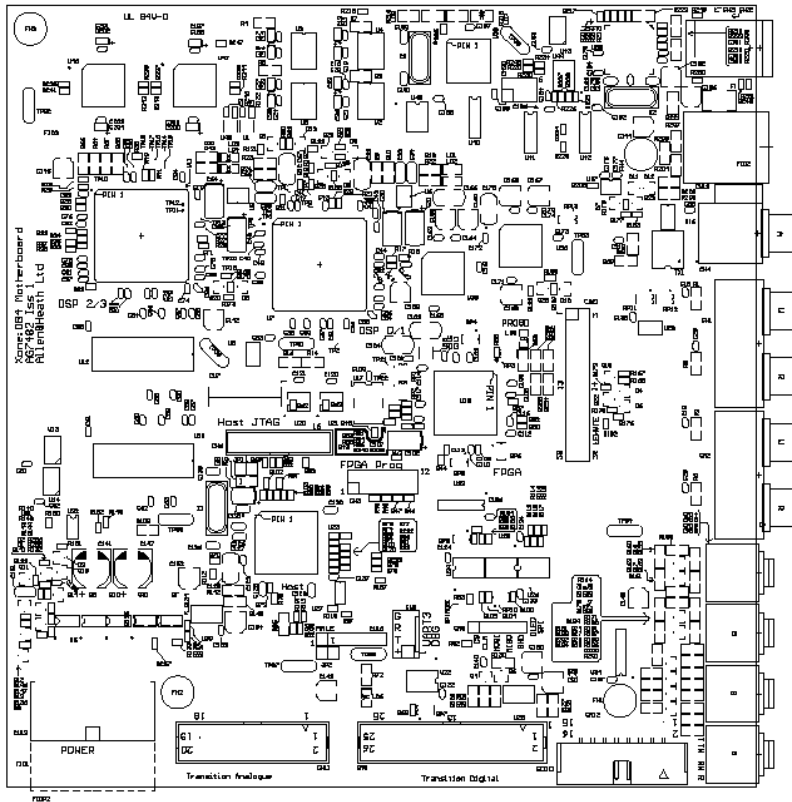
Audio IO 004-068



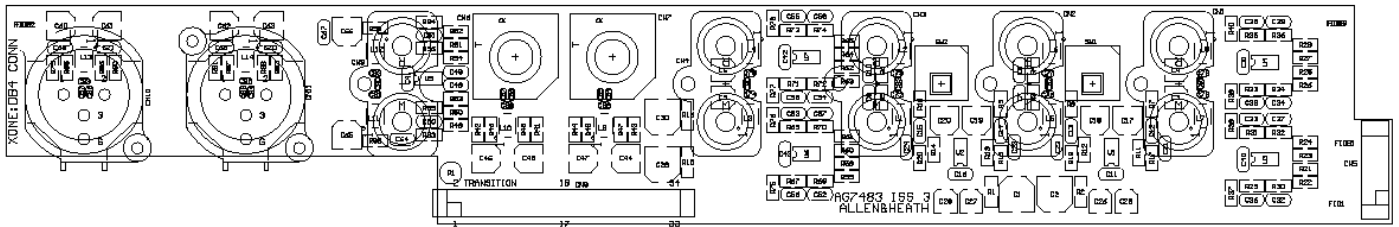
Master 004-070



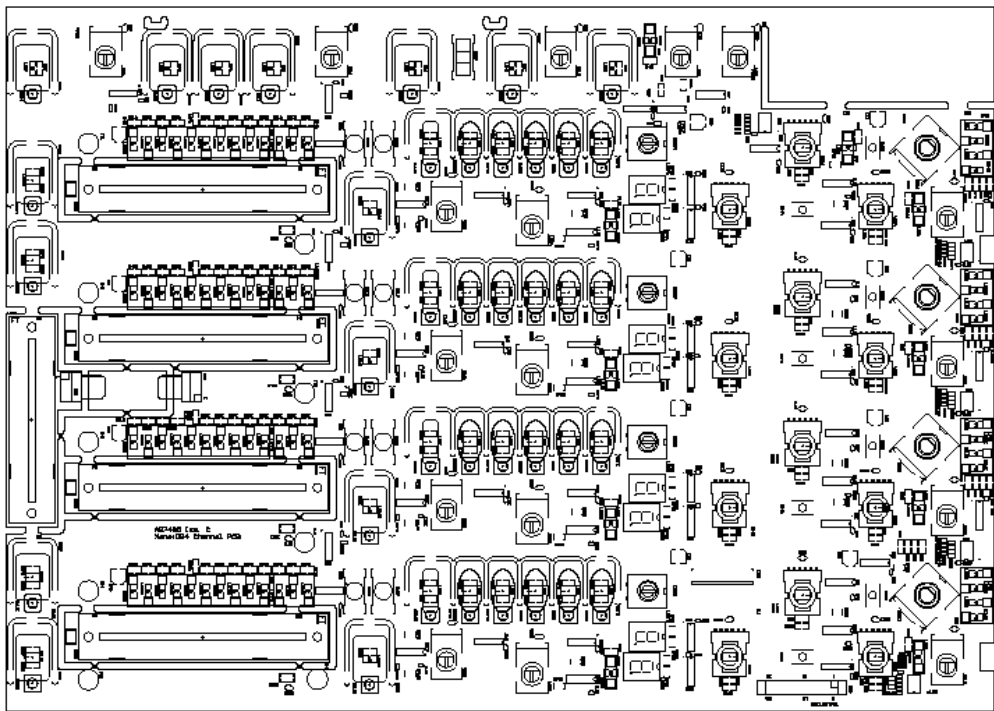
Mic IP 004-073



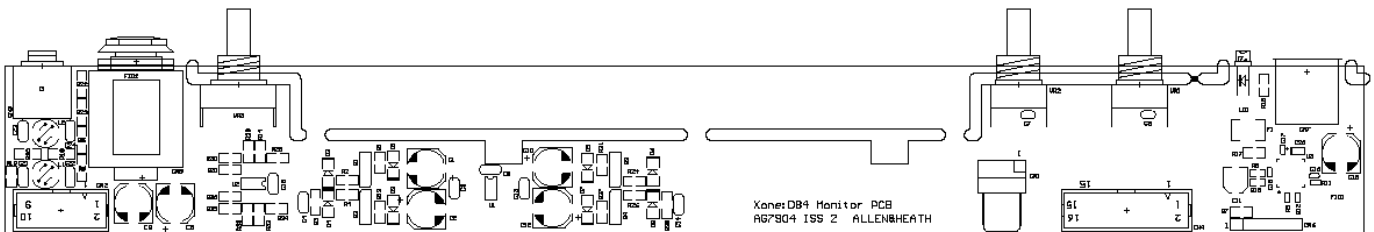
Motherboard 004-067



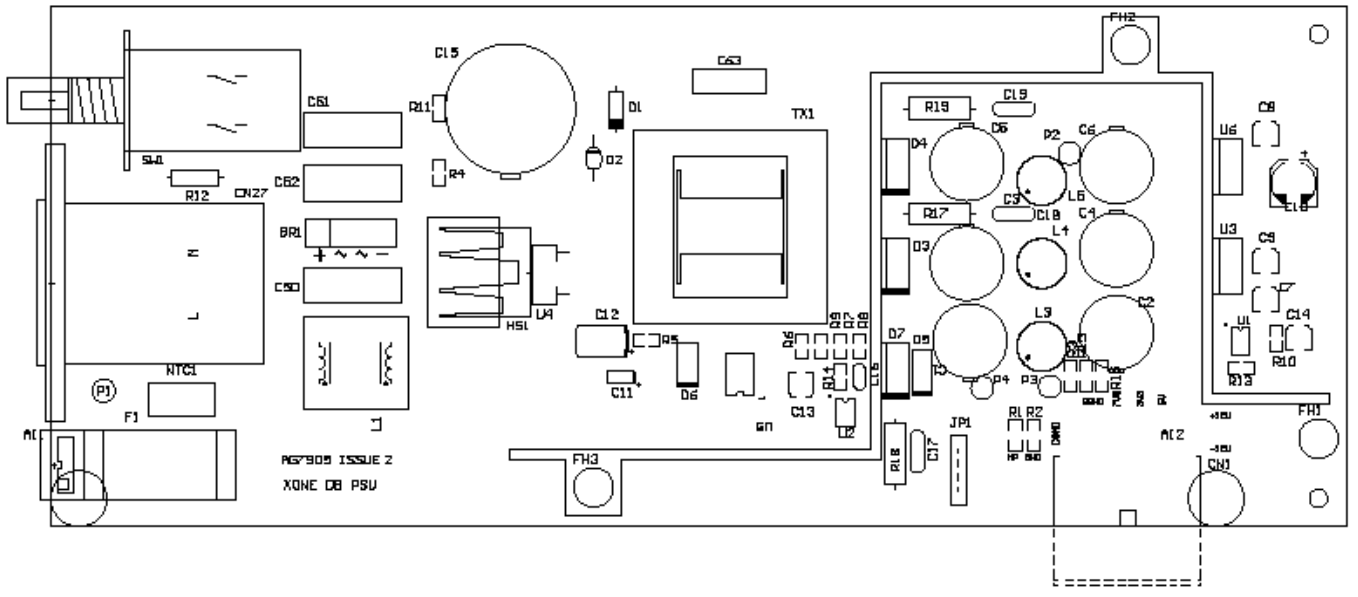
Connector 004-069



Channel IP 004-072



Monitor 004-071



PSU 004-066

SPECIFICATION

DIGITAL ARCHITECTURE SPECIFICATION

Analogue/Digital conversion	24 bit
Analogue/Digital Line-up	+12dBu = 0dBFS
DSP processing	24 bit I/O + 48 bit EQ
DSP Mix Bus	56 bit Fixed Point
DSP core sampling frequency	48kHz
USB soundcard sampling frequency range	44.1kHz to 96kHz
SPDIF input sampling frequency range	32kHz to 192kHz
SPDIF Output sampling frequency	48kHz

QUAD FX Core DSP engine: 4 simultaneous FX engines with independent BPM calculation. 4 stereo Loopers with BPM conscious looping, 4 bars at 60BPM maximum sample time.

Operating levels

Main outputs	0VU = +4dBu
Monitor	0VU = +4dBu
Record	0VU = +4dBu
Maximum output level	+16dBu balanced
Mic Sensitivity	-20dB - -50dB
RIAA input sensitivity 1kHz	70mV = 0VU (200mV max)
Frequency response Line in to Mix out	10Hz - 20kHz +0/-0.5dB
Distortion at 1kHz Line in at +0VU out	0.003% (-90dB) un-weighted
Main Mix noise 22Hz— 22KHz un-weighted	-88dBu (104dB dynamic range)
Residual Mix noise 22Hz— 22KHz un-weighted	-94dBu
Equalization	+6dB boost/-26dB or Total Kill 3 Band
Fader Shutoff	-110dB

See Page 40 for Digital Architecture Specification

Dimensions and Weights

The console is fitted with rubber feet for desktop operation. A screw on rack ear kit is available for 19" rack or plinth mounting.

	<u>Width</u>	<u>Height</u>	<u>Depth</u>	<u>Weight</u>
Desktop	320 mm (12.6")	88 mm (3.5")	358 mm (14")	5.1 kg (11 lbs)
Rack ears fitted	483 mm (19")	88 mm (3.5")	358 mm (14")	
Packed	530 mm (20.9")	470 mm (18.5")	260 mm (10.2")	8.6 kg (19 lbs)

To order a rack ear kit for the XONE:DB4, please quote the part number X:DB4-RK19.

