

# ALLEN & HEATH



# XONE:S2

## Service Manual

AP7178

## 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.

This product complies with the European Electro magnetic Compatibility directives 89/336/EEC & 92/31/EEC and the European Low Voltage Directives 73/23/EEC & 93/68/EEC.

This product has been tested to EN55103 Parts 1 & 2 1996 for use in Environments E1, E2, E3, and E4 to demonstrate compliance with the protection requirements in the European EMC directive 89/336/EEC. During some tests the specified performance figures of the product were affected. This is considered permissible and the product has been passed as acceptable for its intended use. Allen & Heath has a strict policy of ensuring all products are tested to the latest safety and EMC standards. Customers requiring more information about EMC and safety issues can contact Allen & Heath.

NOTE: Any changes or modifications to the console not approved by Allen & Heath could void the compliance of the console and therefore the users authority to operate it.

XONE:S2 Service Manual.

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Allen & Heath Limited

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## Introduction

This publication provides technical information on servicing the Allen & Heath XONE:S2. Included are system block diagram, internal layout drawing and circuit schematics with board layouts. Whilst we believe this information to be reliable we do not assume responsibility for inaccuracies. We also reserve the right to make changes in the interest of further product development.



## Additional Resources

Allen & Heath website: [www.allen-heath.com](http://www.allen-heath.com)

Worldwide distributors: [www.allen-heath.com/uk/distributors.asp](http://www.allen-heath.com/uk/distributors.asp)

UK Technical Support: [support@allen-heath.com](mailto:support@allen-heath.com)

Xone:S2 user guide: A&H part number **AP6858**. This contains general operating instructions, but also performance specifications and user jumper link options.

## Spares

To order spare parts, please contact your countries distributor. A full list is available above, at our Worldwide Distributor page. Please use the enclosed parts identification sheets to ensure you have the correct part numbers before ordering. This will speed up the order process.

For UK enquiries, please contact [spares@allen-heath.com](mailto:spares@allen-heath.com).

## Xone:S2 Service Information

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Manufactured in the United Kingdom by Allen & Heath  
Kernick Industrial Estate, Penryn, Cornwall, TR10 9LU, UK  
[www.allen-heath.com](http://www.allen-heath.com)

## Servicing Precautions

**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.

**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.

## Notes on the Xone:S2

**User maintenance:** There are several user configurable jumper links inside. These are described in the user guide together with instructions on how to change the default settings.

**Technology:** The XONE:S2 uses SMT (surface mount) PCB technology. In certain cases it may be better to replace a faulty assembly rather than try to fix it without the appropriate tools and training. The power supply is a built-in universal mains input, switched mode circuit which should be serviced by suitably qualified personnel only.

**Operation:** The XONE:S2 is a performance club mixer. To ensure optimum performance and reliability it should be connected and operated as described in the user guide.

**Fault finding:** Refer to the system block diagram and circuit drawings to follow through the signal path during fault diagnosis. Replace suspected faulty components only with those specified by Allen & Heath. The use of lower grade alternatives may degrade the performance. Ensure the RCA phono insert jumper links are pressed fully in if fitted.

## Nominal operating specifications

### Inputs:

<b>RIAA input sensitivity</b>	7-100mV 47K/330pF
<b>Line Inputs</b>	-10dB to +15dB RCA
<b>Mic Sensitivity</b>	-57 to -27dBu Balanced XLR
<b>USB Audio In</b>	0dBu RCA
<b>Alarm Input</b>	0dBu Phoenix connector
<b>Mix Insert Return</b>	-2dBu RCA
<b>Channel Insert Return</b>	0dBu 1/4" TRS Jack
<b>Filter External In</b>	0dBu RCA

### Outputs:

<b>Main Outputs</b>	+4dBu XLR
<b>Monitor</b>	-2dBu RCA
<b>Record</b>	-8dBu RCA
<b>Zone</b>	+4dBu Balanced 1/4" TRS Jack
<b>Mono</b>	+4dBu Impedance Balanced XLR Sub Filter Range 30Hz—250Hz
<b>USB Audio Out</b>	0dBu RCA
<b>Mix Insert Send</b>	-2dBu RCA
<b>Filter External Out</b>	0dBu RCA
<b>Channel Insert Send</b>	0dBu 1/4" TRS Jack
<b>Frequency response Line in to Mix out</b>	10Hz to 20kHz +/- 0dB (-1.5dB @ 50kHz)
<b>Distortion at 1kHz Line in at +0Vu out</b>	Typically < -0.05% Channel In to Mix out
<b>Main Mix noise 22Hz—22kHz unweighted</b>	< -73 dBu (-77dB S/N)
<b>Residual Mix noise 22Hz—22kHz unweighted</b>	< - 90.00 dBu