



15HD - User Guide

Revision 1



Manufacturer's Declarations

1.1 EU Declaration of Conformity

This declaration applies to:

- Traction Sound – 15HD

Manufactured by:

Scicooustic Ltd.
Studio 6, The Granary,
Fairclough Hall Farm,
Halls Green, Hitchin,
Herts, SG4 7DP
United Kingdom

This includes production versions of these passive loudspeakers. They must correspond with the original technical version and not subject to modification.

These passive loudspeakers comply with the Essential Requirements of the following EU Directives:

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- RoHS 2 Directive 2011/65/EU

These passive loudspeakers further conform with the following EU Harmonized Standards:

- EN 55032:2015
- EN 55035:2017
- EN 60065:2014+A11:2017

1.2 WEEE Declaration (Recycling)

The WEEE directive applies to this product and its packaging.

At the end of this product's useful life please dispose of it responsibly. This should be according to local and national recycling regulations. The packaging supplied with this product is recyclable.

2.0 User Guide

2.1 15HD Description

The 15HD is a passive two-way loudspeaker featuring a 15" low frequency transducer with weatherproofing on both sides of the cone, and a 1.4" exit compression driver with a polyester diaphragm fitted to a rotatable 80Hx50V horn. This polyester diaphragm helps the 15HD maintain a smooth and unfatiguing output even at high SPL thanks to its high frequency extension and excellent resonance damping properties. The 15HD uses a passive crossover network to allow it to work in single channel operation from 55Hz to 20kHz.

The 15HD focusses on delivering excellent performance from a lightweight enclosure whilst retaining a sleek install friendly look. M10 fixing points on each side, top and bottom, allow for a variety of mounting options and the rotatable horn lets the user operate the 15HD in landscape or portrait orientations. Furthermore, the cabinet has 45-degree angles towards the rear of the cabinet allowing it to be used as a floor wedge or on top of a subwoofer as a DJ monitor.

15mm birch plywood construction contributes to a lightweight but durable cabinet, and the 2mm powder coated steel grille protects the drivers from damage. A textured PU coating adds a final layer of protection from scratching, denting and moisture for the cabinet.

2.2 Directions for Use

2.2.1 - General setup

As a point source product, the nominal dispersion specification refers to the off-axis angles at which the high frequency level is -6dB compared to the on-axis response. By using this dispersion rating and the distance to the audience, the coverage area can be defined. The first and potentially most important step to achieving good results from the system is to ensure that enough speakers are used to deliver the desired SPL over the entire audience area, whilst maintaining an acceptable frequency response.

To make the most of each 15HD, the speaker should be positioned such that the high frequency horn points directly toward the furthest listening position from that speaker. This approach accounts for the loss of SPL over distance by making use of the difference in HF output on-axis compared to off-axis. If delay speakers are to be used, they should be positioned and aimed so that they take over from the on-axis output of the main system.

To further adjust the coverage of the 15HD, the HF horn can be unscrewed and rotated 90 degrees to swap the horizontal and vertical nominal coverage. For example, if the cabinet is suspended in landscape orientation but 80 degrees horizontal dispersion is still required, then the horn should be rotated to achieve this. To rotate the horn, the first remove all bolts from the front grill and pull it away from the cabinet, taking care not to scratch the powder coating as you do so. Loosely screw the bolts back into the grill to prevent losing them. Then unscrew the 8x bolts holding the HF horn in place and prise the horn away from the cabinet. Rotate by 90 degrees only and replace, screwing back in all 8x bolts and tightening such that the gasket material is compressed against the cabinet.

When regularly rotating the horn, make sure to swap the direction you rotate each time, to ensure undue stress is not placed the internal cables.

Whilst the DSP presets provided are designed to give a good starting point for virtually any scenario, we always recommend taking time to measure the system response and adjust based on this. Equalisation on input channels, as well as relative group channels should be used to adjust the system response to taste, and to account for factors such as temperature, humidity and program material. Additional delay on output channels should be used to account for any offset in the distance to target between speakers.

We recommend using 2.5mm² OFC cabling to connect the 15HD to the amplifier. Whilst four-core cable is not strictly required to power the 15HD, using it throughout your system can simplify the setup as the second pair of conductors can be used to drive neighbouring speakers from a different amplifier channel.

2.2.2 – Pole mount

The 15HD can be placed on a 35mm speaker pole, either in the form of a tripod stand or that of a screw-in distance pole connected to a compatible subwoofer. We recommend using an adjustable pole with a ring-lock for maximum stability.

2.2.3 – Ground stack

Some situations will call for the 15HD to be placed directly on top of a stack of subwoofers. In this situation is imperative that all speakers be secured and fastened together, ideally with the use of ratchet strap. We would however recommend using a shorter 35mm distance pole to mount the 15HD, as this is much neater and more reliable. Whichever way the 15HD is mounted, the rest of the ground stack must be placed on even and firm ground and secured against falling.

2.2.4 – Overhead suspension

M10 fixing points are provided on the top, bottom, back and sides of the 15HD, which can be used to attach 3rd party rigging accessories such as eye bolts and customised lifting hardware. The 15HD can be suspended in either portrait or landscape orientation, and the horn can be rotated to accommodate for this. We recommend a minimum of three connection points for a suspension system, so that the cabinet can be angled for optimum crowd coverage. Any M10 bolts removed should always be replaced after use, and under no circumstances should any M10 threads be left open as this will affect the performance of the cabinet unpredictably and expose the internal components to environmental factors such as moisture and dirt.

PLEASE NOTE – all rigging operations should be approved and undertaken by a qualified and competent individual.

Do not suspend from or connect any other items to the 15HD under any circumstances.

2.2.5 DSP Presets

Two output channel preset types are available for the 15HD:

15HD S – For partnering with a Traction subwoofer. This preset should be applied when using the 15HD in a system which makes use of one or more subwoofers to augment and extend the response below 100Hz. Pre-delay is applied as standard to achieve phase alignment with the SW15, SW218, SW215 and other Traction subwoofers. This pre-alignment is valid when the front edges of both cabinets are equidistant from the listener; for greater spacings between speakers, additional delay should be added to compensate for any additional time delay. The limiters in these presets are designed to work with amplifier systems with 32dB of gain from input to output.

15HD FR – For standalone use, with -3dB response at 55Hz (half space). This preset should be used when the 15HD is used on its own, without subwoofer reinforcement, or when it is deployed as a delay speaker in a scenario where the main system far enough away from the intended coverage area that the full frequency range is required from the 15HD. The limiters in these presets are designed to work with amplifier systems with 32dB of gain from input to output.

2.2.6 Amplification

We recommend using the Traction Engine 4|1000-DSP to power this speaker individually, and the Traction Engine 4|2700-DSP if more two speakers are wired in parallel, driven by a single amplifier channel. Care should always be taken not to clip any part of the signal chain including DSP I/O, amplifier inputs or amplifier outputs, as this will lead to degraded sound quality and ultimately damage to loudspeakers and partnering electronics.

3.0 Connections

3.1 Connection on pins 1+/1-

The cabinets have a pair of Neutrik[®] NL4 SpeakOn[™] connectors. Both connectors are wired in parallel. Pins 1+/- connect to the input of the passive crossover and pins 2+/- only act as a pass through. Input signals should be sent on pins 1+ and 1- of a 2 or 4 core cable terminated with an appropriate SpeakOn[™] connector.

4.0 Safety Instructions

4.1 Beware of Sound Levels

Do not stay near loudspeakers in operation. Loudspeaker systems can produce a very high sound pressure level. This can cause permanent hearing damage. It can happen at moderate levels with exposure over a long time.

4.2 Intended Use

Trained personnel must operate these loudspeakers in professional applications.

4.3 Associated Equipment

Always use these loudspeakers with the correct amplifier and DSP settings. Only use equipment or accessories approved by Traction Sound.

4.4 Safety Checks

Perform a safety check before each use of these loudspeakers. Check the product and accessories for visible signs of wear and tear. This includes load bearing bolts and accessories. Replace parts that look damaged.

4.5 Intended Environment

Do not expose these loudspeakers to rain or sea spray. Do not expose these loudspeakers to dripping or splashing liquids. Do not place objects filled with liquid such as vases or drinks on the loudspeaker. Do not expose these loudspeakers to moisture. This includes mist, steam, condensation and humidity. Do not expose these loudspeakers to excessive heat including direct sunlight. Do not place naked flame sources such as lit candles on the loudspeakers.

4.6 Fall Risk

If loudspeakers fall, they can cause injury and damage. Do not use, store or transport loudspeakers where they are unstable. Secure against accidental movement. Place stands and tripods on a firm surface and test that they are stable.

4.7 Maintenance

Maintenance can be dangerous and damaging to loudspeaker products. It must only be carried out by people authorised by Traction Sound.

4.8 Warranty conditions

If any of these instructions are not followed, the product warranty will be considered void.

5.0 Product Specification

5.1 15HD Specifications

Type	15" 2-way with 1.4" exit CD
Frequency Response (1)	55Hz - 20kHz
HF Driver	1.4" exit CD with Polyester dome diaphragm
LF Driver	Weatherproof 15" driver with 3" voice coil
Power Handling (2)	400W AES 800W Program
Power Handling LF (2)	N/A
Recommended Amplifier	Traction Engine 4 1000
Sensitivity (2)	99dB SPL
Maximum SPL (4)	130dB Cont. 136dB Peak
Nominal Impedance	8 Ohm
Crossover	Internal Passive Network
Connectors	2x Neutrik® NL4 SpeakOn™ with all pins linked
Nominal Dispersion (-6dB)	80H 50V
Primary Construction Material	15mm Birch Plywood
Available Finish	Black Textured PU
Dimensions	700m x 440mm x 415mm
Fittings	12x M10 rigging points 35mm pole mount
Weight	33kg
Available Accessories	HD15 U-Bracket

Notes

(1) Measured on axis in half (2pi) space at two meters and referred to 1 meter, with DSP preset applied.

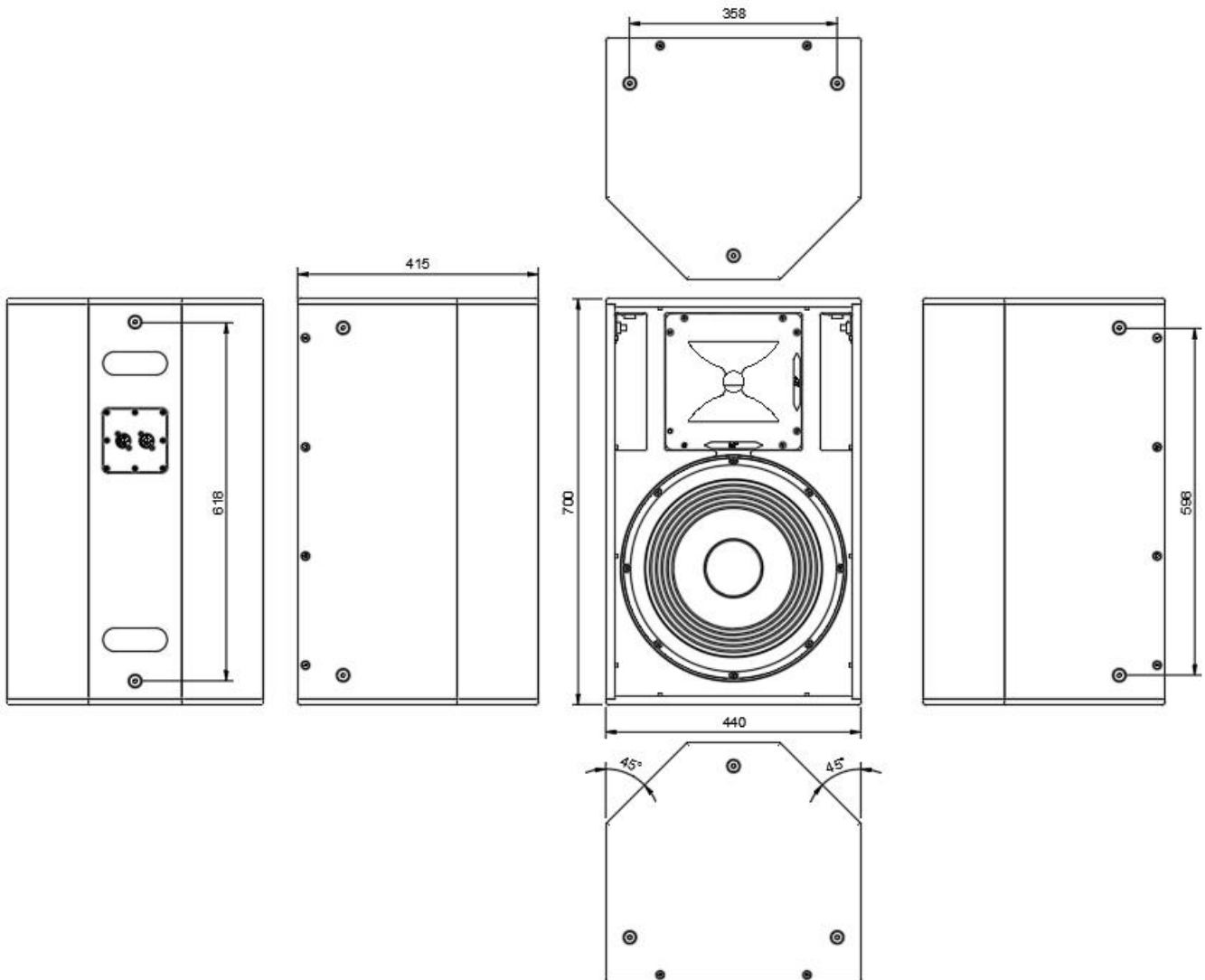
(2) Tested to AES 2-1984 Rev. 2003.

(3) Measured in half (2pi) space at 2 meters with 2.83V input, using band limited pink noise, then referred to 1 meter.

(4) Calculated at 1 meter.

6.0 Technical Drawings

6.1 15HD External Dimensions



7.0 Contact Details

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