

# Absolute 4P

PROFESSIONAL ACTIVE MONITOR SYSTEM



**S**pirit Absolute 4P active monitors put you in command of the mix by taking away the uncertainties of sound reproduction. Whilst some passive speakers can prove unpredictable due to external factors over which they have no control, 4P's active design optimises the performance of built-in amps, drive units, and electronic crossovers to ensure that they work together as a cohesive whole.

Absolute 4Ps at Strongroom Two, London

## The DESIGN CONCEPT

Absolute 4P has been designed by Trevor Stride, the man behind the acclaimed Absolute 2 and Absolute Zero monitors.

Trevor has over 15 years of audio design experience behind him, working for a number of the industry's leading names. Trevor's design philosophy is deceptively simple:

- Any professional monitor should exhibit an even frequency response at high and low levels, on and off axis;
- It should have the most accurate possible time domain response;
- It should have the most natural, uncoloured sound possible, whatever the price level;
- It should not exaggerate or enhance sound to satisfy individual tastes;
- It should not cause listening fatigue which often arises from the inappropriate use of driver materials;
- It should be reliable in prolonged, professional use.

To satisfy these criteria, Trevor has scrutinised every element of 4P's design to optimise its performance.

**Four built-in amplifiers** (2 in each cabinet) are high-calibre, professional devices, which have been 'custom tuned' to perfectly match the drive units. The **active VCS crossovers** have been designed to prevent distortion of the system phase response (a common characteristic of systems which rely solely on physical driver alignment) by electronically aligning the drivers. Close proximity between the electronics and the drivers has a benefit - the short cable runs minimise signal loss, which means **greater efficiency and better dynamics**. Both drive units are **custom designed and magnetically compensated**. The 6.5 inch (170mm) bass driver has a **low-resonance cast chassis**, phase plug and cone made from **High Definition Aerogel™**. The result is an LF unit which, when compared to a paper cone of the same weight, has a remarkably **high stiffness-to-weight ratio and very good damping** - two highly desirable yet normally elusive qualities. Thanks to the versatility of the active system, HF response is **extremely flat** with **superb dispersion**; the 30° off axis response extends to 17kHz. Because of the wide dispersion angle of the tweeter, the cabinet design has **large radii on all edges to minimise edge diffraction effects**. For absolute flexibility, the 4Ps may be used in a vertical or horizontal position, the latter being accomplished by simply rotating the internal amplifiers through 90°.

## APPLICATIONS

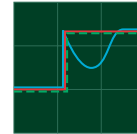
- Nearfield monitoring in large studios
- Small studio monitoring
- Home studio monitoring
- Video edit/post-production suites
- Multimedia
- High quality small venue sound reinforcement/distribution



## THE INSIDE STORY

### ABSOLUTE PHASE LINEARITY

A true phase linear design prevents phase lag to ensure that all frequencies reach your ear at the same time, essential for accurate monitoring. Many designs attempt to overcome the problem by playing with the physical alignment of the drivers, invariably leading to phase lag at low frequencies. In contrast, Absolute 4Ps achieve true phase linearity by the use of Spirit's **active VCS crossover** which electronically 'aligns' the drivers.



--- Input Waveform  
— Mon Phase Linear System (low frequencies lag behind)  
— Absolute 4P Phase Linear System

### ABSOLUTE SOUND QUALITY

To achieve Trevor Stride's design brief of a natural, uncoloured sound, 4Ps use bass cones custom-made from HD-A (**High Definition Aerogel™**). This remarkable new composite exhibits very high internal damping, high rigidity and low mass. Being lighter and more rigid than standard paper designs, 4P's cones are at least **2dB more efficient** and very low in colouration. Furthermore, Trevor chose **ferro-fluid cooled soft dome drivers** instead of metallic tweeters which can create unwanted spurious HF resonances. Flat response is maintained off-axis by the newly designed tweeter face plates, and the edges of the substantial **18mm MDF cabinet** are radiused to help prevent HF refraction and interference.

### ABSOLUTE POWER

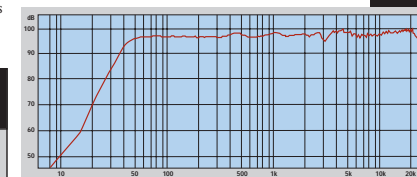
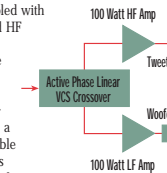
**Two 100 watt amplifiers** in each enclosure make Absolute 4Ps the **most powerful active monitors** in their price class - but that wasn't the prime objective. The use of an **active VCS crossover**, coupled with dedicated drive to the LF and HF units, enables the frequency response characteristics of the system to remain flat at all levels. **Built-in protection circuitry** also works together with the amplifiers to provide a constant safeguard. A switchable **40Hz High Pass Filter** allows accurate, high level monitoring of bass-heavy music signals as well as simulating the response of typical 'hi-fi' speakers to facilitate home studio mixing.

### ABSOLUTE COMPATIBILITY

4Ps cater for both professional and semi-pro connections, and can be used with a wide range of input sources such as mixers, CD Players, and DAT machines. **Industry standard XLR connectors** handle balanced signals (+4dBu) while **gold-plated phono sockets** take care of unbalanced sources (-10dBV). Further accurate left/right channel matching is assured by the **stepped input level controls**.

### ABSOLUTE PROTECTION

4Ps are protected by a **'zero-colouration' active circuit**, that has no adverse effect on sound quality, and which continuously monitors operating status by simulating drive unit power dissipation. Any signal approaching danger level will be progressively limited by **precision electronic attenuators**, without affecting transients. A red LED on the front panel illuminates when the protection circuit is limiting, giving you plenty of time to re-adjust your levels. If the yellow LED lights, the amps are running too hot and it's time to reduce levels.



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Part # ZLD417

## SPECIFICATIONS

Amplifier Power Output:	HF - 100 Watts RMS LF - 100 Watts RMS
Frequency response (half space on axis):	40Hz - 22kHz, -3dB
Crossover (constant voltage, linear phase):	2.4kHz
Efficiency (half space):	115dB max SPL @ 1m
Driver complement:	170mm LF/25mm HF
Dimensions (HxWxD):	395 x 240 x 330mm 15.5 x 9.5 x 13"
Weight:	13.8kg (30.5lbs) each

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## MAIN FEATURES

- High definition linear phase design
- Flat on- and off-axis frequency response
- Custom designed magnetically compensated drivers
- Long throw Aerogel™ 170mm LF driver
- 25mm ferrofluid-cooled soft dome tweeter
- Vented cabinet with large flared port, for extended low frequency response, even at high levels
- Integral low distortion 100W (LF) and 100W (HF) power amplifiers, with full protection/limiting for both drivers and amplifiers
- Constant voltage active crossover, with time compensation for driver alignment
- Stepped input level control for accurate setup
- Switched 40Hz HPF allowing higher sound levels from bass-heavy music signals
- XLR connector for balanced signals, RCA phono-type sockets for unbalanced signals

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By Soundcraft