

Custom Install Audio - Awaken your senses

“The SM 15 monitors are truly amazing. The level of detail is astonishing, the translation to other systems incredible.... they really are something quite special.” Iain Robertson: Senior Producer at Sony EMI Music.

Science with Soul

The SM15 majors on time domain accuracy and high resolution. An order of magnitude more accurate than any conventional full range design, the SM15 reproduces sound with an ease and grace that allows sound engineers to work creatively all day without any listener fatigue.

Providing a rock-solid 3D sound-stage they remain free from artificial edge or glare yet immensely detailed and informative.

CIA founder and SM15 designer, Derek Wilson, has spent over 10 years researching the effects of time domain distortion in audio and as far back as 2004 was pioneering the use of DSP with Linear Phase crossovers and room correction in high performance audio.

The SM15's are the culmination of a lifetimes work in audio, our unique blend of science with soul will showcase your creativity beautifully.



SM 15's beta testing with Amphon and Genelec in SOTA private studio Nov 2016

“Quite simply I’ve never heard tonal balance or 3D stereo imaging like this on ANY system at ANY price.” Robin Junga: Producer / Mastering engineer, 20 yrs. Music tech lecturer BA/BMus/BSc. 3 yrs. Head of Creative Industry Pro Training and Certification. SM15 beta testing Sept 2016.

Can we hear time?

Our brains have evolved over millions of years to detect sounds by “locking on” to the precise timing of sounds, only in the last 100 years or so have we had to listen to artificial sounds replayed over amplifiers & loudspeakers which blur this vital timing.

Sounds are formed by brief fluctuations in air pressure, nothing more than an increase in air pressure (compression) followed by decay to below ambient (rarefaction) & then back to ambient air pressure. That’s all sound is, nothing more complex than brief fluctuations in air pressure.

Our ears decode these “Air Pressure Events” (APE) by calculating the different arrival times of each compression and rarefaction at each ear. Each APE has a precise start & stop point and our ear / brain or “Human Auditory System” (HAS) has evolved to locate and identify all sounds in 3D space using this timing information.

Most loudspeakers have very poor time domain performance, they blur the timing of the APE’s and prevent our HAS from locking on to a sound when the loudspeaker cone bounces backward & forward on its suspension creating a series of ghost echoes or “ringing”.

Conventional full range loudspeakers typically ring for 5 milli seconds (ms) to 10ms with some loudspeakers ringing for over 20ms. Fig 1 shows our Rapid Energy Decay (RED) driver’s astonishing sub 1ms ring time.

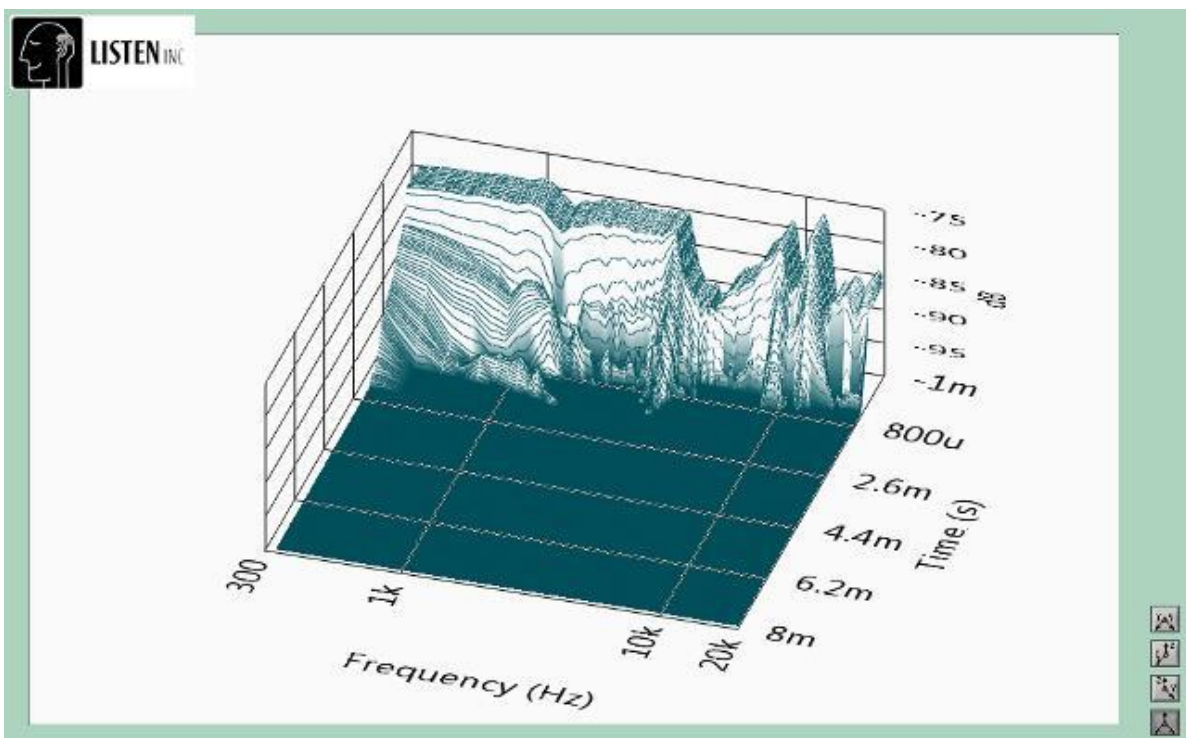


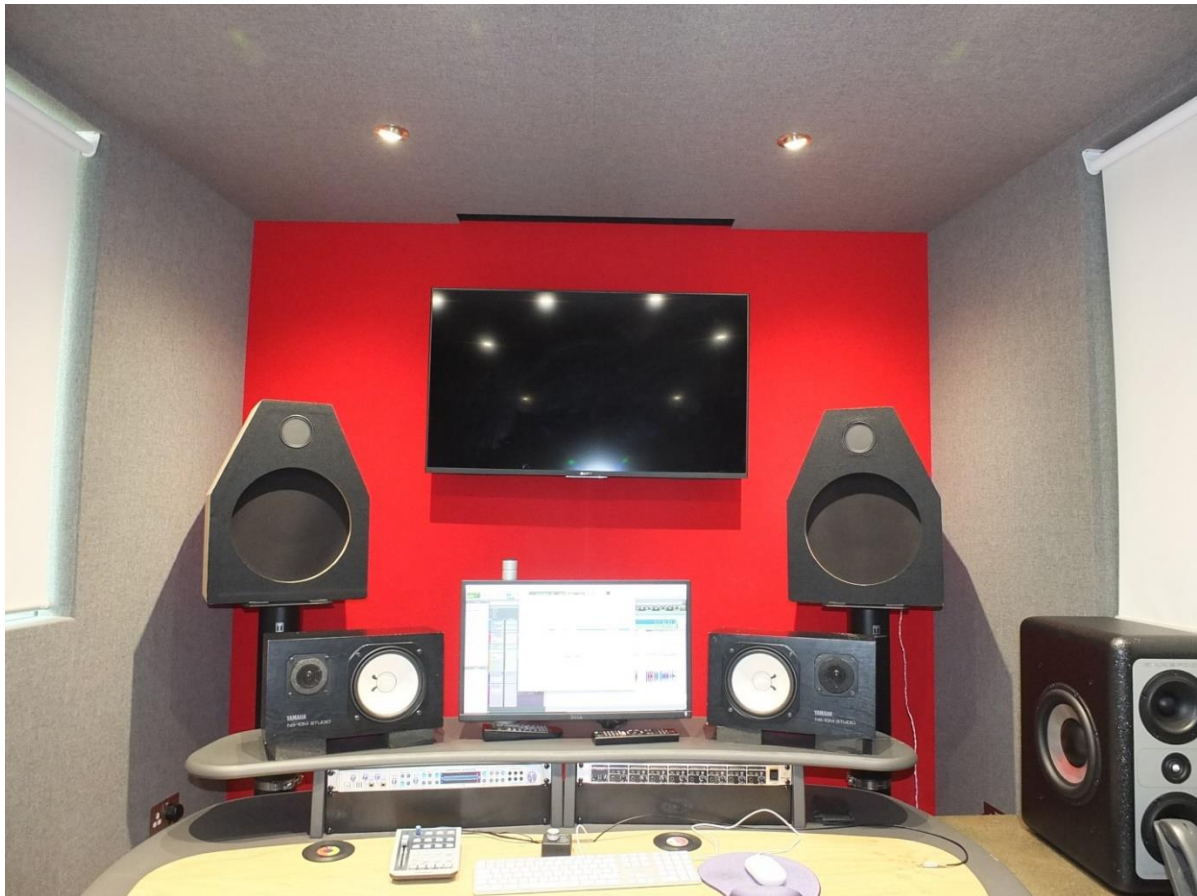
Fig 1 shows our RED drivers remarkable sub 1 millisecond settling time on the CSD plot.

“They're (SM15's) arguably superior to the Barefoots in terms of imaging, detail, realism, and all the things Smit and I care about for mixing.

Iain Robertson: Senior Producer at Sony EMI music.

RED drivers excel in the time domain, they also excel in the frequency domain covering over 6 octaves (300 Hz to 20 KHz) remaining accurate and consistent without exaggeration or omission in any frequency band.

No crossover in the critical mid-band avoids time & phase distortions and being a true point source the RED drivers deliver a broad & stable soundstage over a wide listening area.



SM15's beta test at Sony EMI music production with Barefoot Sound and Yamaha Dec 2016

Below the 300Hz crossover point our custom 15 inch driver takes over. Combining cutting edge design with advanced material science our drivers feature low moving mass, high BI motors & low Qts, ensuring the fastest energy decay.

Our bass drivers feature a sealed box loading, precisely matching our RED drivers Q of 0.707 they remain tight & accurate throughout the bass / low midrange, dovetailing beautifully with the RED drivers mid & top.

The critical low midrange is refreshingly detailed & clean, free from the “bloom & boom” colourations inherent in all transmission line / ported or passive radiator systems.

“... Both Smit and I would put a pair of the smaller (SM8 monitors) at the top of the list for nearfields.” Iain Robertson: Senior Producer at Sony EMI music.

Easy listening

Being free of unnatural cone ringing has another major benefit - No more listening fatigue. Even after an intense day at the mastering desk you will still be able to locate and identify sounds accurately.... *Because they are being reproduced accurately.*

The bottom line is our technology allows sound engineers and composers to work without any stress or listener fatigue & create far more accurate masters by allowing our ear / brain to lock on to the initial transient of every note.

Naturally accurate without any glare or edge, RED drivers showcase instrumental placement with musical content and spatial effects with Dolby Atmos, Auro 3D and VR.

Power & control

Loudspeaker management & control is handled by our innovative DXO using twin Sharc DSP's with FIR linear phase crossovers & Eq to blend both drivers seamlessly within plus / minus 0.5dB over the critical 300Hz to 8KHz band.

This DSP management gives you the best of both worlds.... A cutting edge DSP power house which is invisible sonically and yet so simple to operate you forget its there during day to day use. The system includes:

6 channels of 24 bit 96KHz DAC. 2 channels of 24 bit 96KHz A to D. Flexible connectivity with AES, SPDIF, BNC & USB inputs and 6 channels of fully balanced analog out.

Plus 6 channel digital out via BNC to enable external DAC's with internal or external word clock options.

To ensure every CIA system operates at its maximum performance we include on site installation and calibration tailored for your room acoustics and fine-tuned to suit your individual needs with an Earthworks measurement microphone.

We include a reference or “flat” frequency response curve which reveals every sonic detail & subtle effect.... The whole truth and nothing but the truth.

Our DXO can recreate the crossover points and frequency response of any conventional monitor and make these alternative curves available from the remote control.

This allows you to hear how your mix will sound on other systems i.e. Consumer Hi-Fi, headphones, commercial cinema, etc. This unique feature saves cost & space as one set of CIA monitors effectively replace 3 or 4 sets of conventional monitors.

The system can be easily re-calibrated if you move room or change the acoustics. CIA systems can adapt to a wide variety of acoustic environments, the performance remains stable even when the location acoustics change.

After listening to the very first test track.... **“This could be expensive... A silky smooth and revealing, yet unbiased mid-range!”** Justin Fraser: Emmy award winner, Grammy nominated Avid Pro Tools certified trainer and international producer & sound engineer.

The cabinet



Laminated plywood construction provides an inert & elegant solution.

Not just another MDF box

Furniture grade 24mm Baltic Birch plywood is 5 times the price of 24mm MDF.... The superior acoustic properties alone make it worth every penny. The natural beauty of Birch ply, FSC approval and its legendary durability make it the ultimate cabinet material.

All boxes resonate, so we don't use them. We create a “hewn from solid” cabinet structure by laminating multiple layers of CNC'd Birch plywood bonded together using powerful adhesives and over 5 tonnes of compression.

The cabinets are then lined with 3 different types of internal dampening materials to absorb internal reflections. The finished cabinets are completely free from resonance or colouration, providing an inert structure to house our RED drivers.

The organic low diffraction shape is hand treated with multiple coats of satin lacquer to achieve a naturally beautiful finish.

To put the “custom” into Custom Install Audio, we offer a bespoke design service to replace existing in-wall monitors without the need for any building / structural work. We match new for old cabinet dimensions but fill the space with our state of the art RED technology.

“The SM15’s... This is what it sounds like when I go on stage to change a mic!” Matt Dilley- Classical producer- Yamaha, Classic FM, St Pauls London. SM15 beta testing.

Amplification

Our high power class A / B amplifiers feature extended band-width and remain phase linear out to an unprecedented 2.1MHz, **not KHz**. This ensures perfect phase performance within the 20Hz to 20KHz band, remaining unaffected by the harmonics of phase errors for over 5 octaves above audibility.

Featuring true dual mono layout and fully balanced configuration each cabinet has two separate power supplies and two mains connectors. The bass frequencies power demands never affect the performance of the mid and top.

With 600 watts for the bass & 200 watts for the RED driver there is always ample headroom available and reference quality components with precision assembly ensure rock solid stability & long term reliability.

THD at 100 watts continuous into 4 Ohms @ 10KHz = 0.005%.

Frequency response: -3dB level = 5Hz to 2.1 MHz (Not KHz).

Slew rate - 235 V/ us.

Signal to noise ratio > 110dB.

IMD between 19KHz & 20KHz signals = 0.003%.



Prototype power amplifier showing dual mono power supplies.

Planet before profit

We take our environmental responsibility very seriously and put our money where our mouth is. By donating £75 to Cool Earth (www.coolearth.org) for each pair of monitors we build, this pays to protect 1 acre of tropical rainforest from illegal loggers and makes each pair of our monitors carbon neutral.

We believe in protecting biodiversity and use the most sustainable manufacturing practices, FSC sourced and approved timber and recyclable or reusable packaging. Only the most efficient low energy production techniques and environmentally friendly glues and water based varnish are used. We scrutinise our supply chain very carefully.

We are proud to source over 90% by weight of all materials & parts from within the UK and Europe, the rest from the USA, nothing is sourced from Asia.

Our guarantee

All our products carry a 3 year warranty against all manufacturing faults.
All software and firmware upgrades are free for 5 years.

Last words from ***Rob Harris of Jamiroquai:***

“The SM 15’s are really special...Instruments have a beautiful texture and even subtle details & effects remain stable and clear regardless of volume.... When the vocals kick in it sounds like she has jumped through the glass & is singing to me!”