

The first of an entirely new generation of studio monitors featuring Tannoy Wideband technology, and setting new standards of quality for reference monitoring.



A fully time-aligned, 3-way active system utilising Dual Concentric™ plus SuperTweeter™ drive units, the Ellipse 8 has a frequency response extending to above 50kHz for monitoring of wideband programme material.

Ninety degree horizontal dispersion gives a you a wide sweet spot for practical working across the console, while analogue signal processing achieves an exceptionally flat frequency response in use.

Discreet MOSFET power amplifiers, with generous power supply, provide more than ample power with extremely low noise and distortion.

The unique cabinet shape not only has a striking appearance but is inherently stiff. Constructed of laminated birch with a massive MDF baffle and rear panel, the enclosure is non-resonant acoustically and mechanically.

SUPERTWEETER – 14kHz-50kHz
The pod mounted SuperTweeter uses a specially developed aluminium alloy and carbon fibre dome with rare earth magnet and continues the frequency response to over 50kHz. It is driven by a dedicated 30W IC power amp, and time-aligned to the Dual Concentric™ over a wide horizontal dispersion using fourth order Gaussian hi-pass filter and critical physical positioning. The SuperTweeter amplifier bandwidth is up to 80kHz. The crossover frequency is very high at 14kHz, which is far away from the midband where sensitive stereo location information is concentrated. At this frequency it doesn't interfere with the main signal from the Dual Concentric™. Listening at 1 metre on axis with the HF horn, which is the precise point where its signal synchronises with the Dual Concentric™, it is not detectable as a separate source.

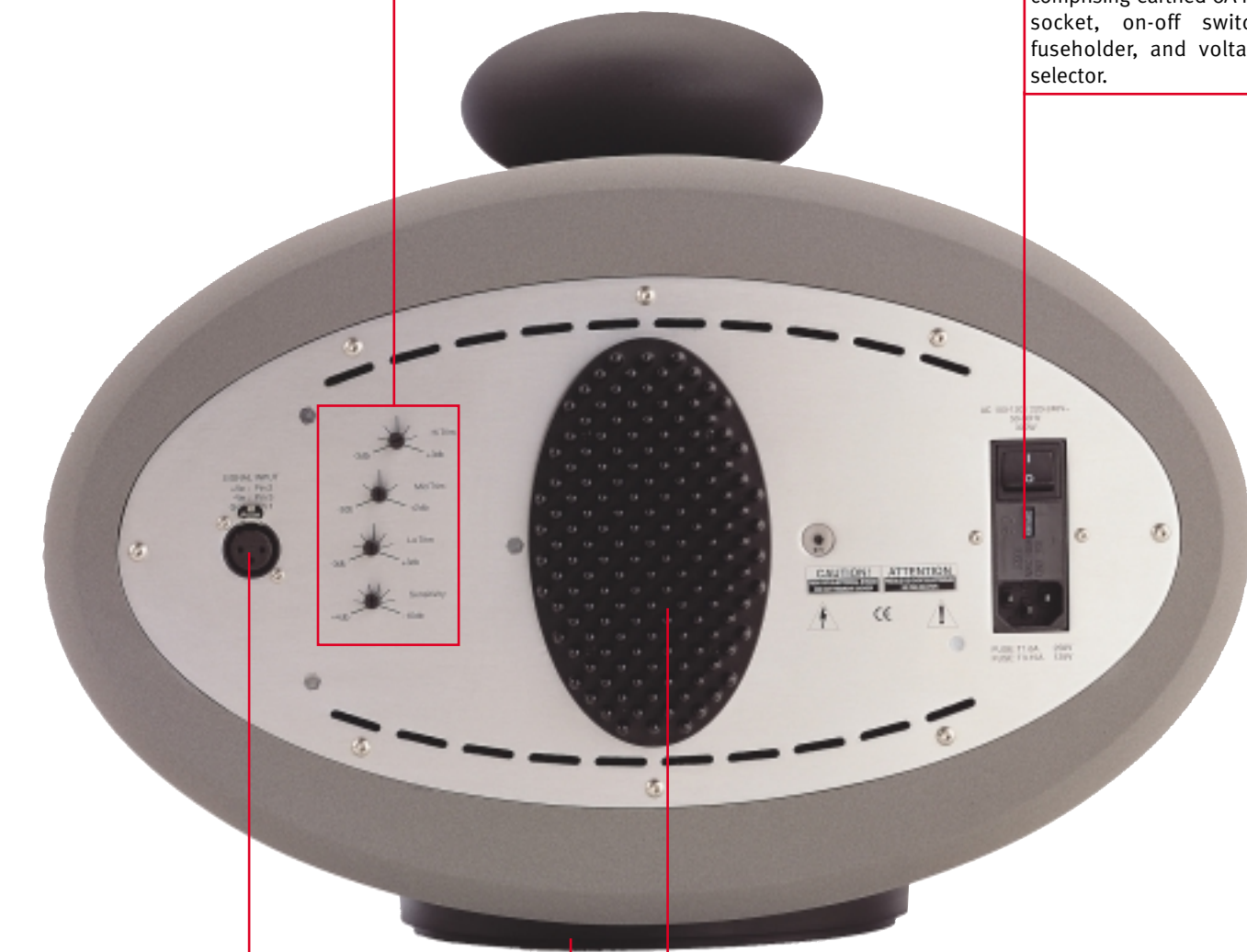
DUAL CONCENTRIC (HF Unit) – 1.7kHz-14kHz
Aluminium alloy dome, horn loaded HF unit with waveguide, mounted inside the voicecoil/magnet assembly of the LF unit. Time-aligned to the Dual Concentric™ LF unit and SuperTweeter using asymmetric high order bandpass filtering. The HF unit has a high sensitivity of up to 105 dB for 2.83 volts, so that its dedicated 150W power amp normally runs with over 20dB headroom, ensuring uncompressed dynamics. It's high sensitivity also means it's average power consumption on normal programme material is only one or two watts, so there's minimal thermal compression compared to low-sensitivity dome HF units.

DUAL CONCENTRIC (LF Unit) – 40Hz-1.7kHz
Polypropylene cone, long throw driver with cast alloy chassis where the cone profile continues the exponential horn of the HF unit. Using complex filtering, it is accurately time-aligned with the HF unit, so they are not only on the same axis, but also in the same plane. All frequencies therefore effectively radiate from a point source, making percussion and transients more realistic, and giving the system excellent imaging properties. The LF unit is driven by a 150W power amp (200W peak), giving a more powerful and controlled low end delivery than is usual for a system of this size.

MULTI-FUNCTION led INDICATOR
The LED shows three colours for various functions. Low-brightness green is illuminated all the time the system is powered to indicate normal function. A high-brightness red illuminates for two seconds during start-up, or continuously to indicate a fault condition such as thermal trip or amplifier failure. Flashing red gives instantaneous indication of voltage or current clipping in the LF amplifier. The unique feature of the indicator is the VLF (very low frequency) warning. When there is a significant level of subsonic content in the mix (typically between 1Hz-15Hz) the built-in LF hi-pass filtering prevents it from causing excessive cone movement and draining amplifier power, as would happen in a conventional passive monitoring set-up. To represent cone-flap, and warn of VLF content, the LED will flash yellow with every positive and negative half cycle of the offending signal. Recording, mixing and mastering engineers are therefore given the opportunity to take remedial action if required.

TRIM CONTROLS
Setting the top three controls to the mid position gives a flat response. However, rooms differ, as do personal preferences. The frequency trims allow for compensation and correction of all these variables. The mid trim gives +/-2dB centred at 1.4kHz and has a Q of 0.45. Hi-trim and Lo-Trim are gentle shelving filters giving +/-3dB at 20kHz and 40Hz respectively. The fourth control is for input sensitivity and is continuously variable from -10dBu unbalanced to +4dBu balanced for maximum output.

MAINS INLET MODULE
A four-in-one mains inlet comprising earthed 6A IEC socket, on-off switch, fuseholder, and voltage selector.



XLR BALANCED INPUT
A variable gain instrumentation amplifier input stage with high CMRR is used, with local grounding and high RFI rejection.

RESILIENT BASE
Secure mounting is provided by the detachable neoprene base, which effectively dampens any vibration between the loudspeaker and the stand or platform support. Remove the base and a standard Omnimount wall bracket can be used as an option.

AMPLIFIER MODULE
Behind the elegant cast multi-fingered heatsink, which has 60% higher efficiency than a vaned heatsink of equivalent size, lies the surface-mount PCB. The circuit carries 20 ultra-low distortion, low-noise audio op-amps, which provide comprehensive Analogue Signal Processing and power amplifier driver stages. LF and HF bands have identical 150W discrete mosfet power amps. The SuperTweeter is powered by a monolithic 30W wide bandwidth amplifier, which gives ample headroom for the minute signal in this audio band. The ASP used comprises high and low order frequency dividing networks, fixed and variable equalisation, and high Q inductive / capacitive correction filters. There is no compression or limiting on board, to preserve dynamics. The system can be driven into clipping, and damage can result from abuse, but it's a system designed for professionals who want to hear the true dynamics of their work.



Why you need extended high frequency bandwidth in today's digital recording environment

For years, sound recording engineers, broadcasters and producers have successfully relied on the Tannoy Dual Concentric™, with its single point sound source providing the most accurate, natural sound for monitoring – reproducing instruments and voices far better than conventional monitor designs.

So, why have we introduced a new monitor with a Dual Concentric™ and a SuperTweeter?

The Dual Concentric™ covers most of the audible band – its flat frequency response from a single point source is essential in maintaining accurate phase for the generation of stereo and surround audio images. Wideband Technology has enabled us to add a sophisticated, very high frequency driver (the SuperTweeter), time-aligned to the acoustic centre of the Dual Concentric™, which accurately reproduces frequencies above the roll-off point of the Dual Concentric™ HF unit and all the way up to 50kHz.

What's the point of that when the upper limit of most human hearing is just 20kHz?

Well, it has been proven that all types of instruments generate considerable energy above 20kHz – and with some instruments, such as the trumpet (see fig 1), the level doesn't drop into the noise floor until 100kHz. These ultrasonic additions to the fundamental frequency are what give instruments, including voices, their individual character. We can't 'hear' them in the normal

sense of the word, but research has shown that we do detect and respond to them in our perception of sound.

And the effect of this ultrasonic information extends throughout the audible frequency range - even bass notes have leading edge transients reaching 30kHz.

In addition, the SuperTweeter reduces the high frequency phase error by moving the low pass roll-off point much higher, typically -6dB at 54kHz, -18dB at 100kHz (see Fig 2). So, even if we ignore for now the perception of sound above 20kHz, the addition of the SuperTweeter gives a more realistic soundstage by improving imaging and placement of instruments.

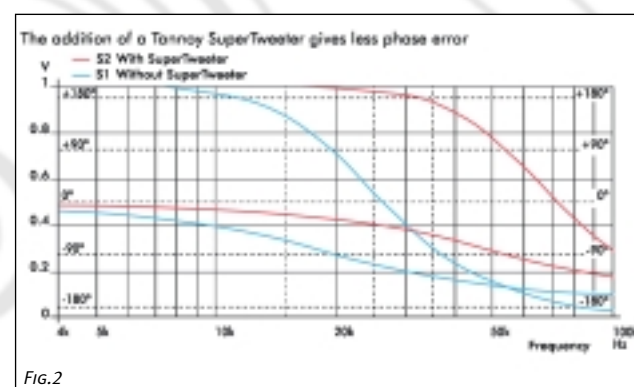


Fig.2

With 96kHz and 192kHz digital recording systems rapidly becoming the norm in today's recording environment, you need to be sure that your recordings are faithfully reproducing the original sound. Tannoy Wideband Technology monitors help ensure that whatever you record will sound as good when played back on the new generation of wideband commercial and home audio systems.

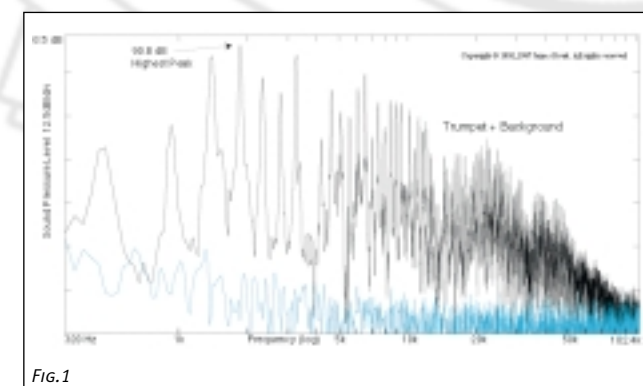


Fig.1

SPECIFICATIONS

SYSTEM

Frequency Response (±2 dB to 20kHz) 40Hz – 50kHz

Maximum SPL (peak @ 1m) 112 dB (anechoic)

Typical max SPL (pair @ mix position) 118 dB

Distortion <0.5%

Dispersion (@6dB) 90° horizontal

ELECTRONIC SYSTEM

Amplifier input 22kΩ balanced via XLR

Input sensitivity +4dBu to -10dBu continuous

Crossover frequencies 1.7kHz – 14kHz

Amplifier power LF: 150W / HF: 150W / ST: 30W

Signal/noise ratio >100dB

Multi-function LED indicator
 Green for: System on.
 Red for: Stabilisation prior to system on. Fault (such as DC), thermal trip, clipping of LF amplifier.
 Yellow for: VLF warning (presence of subsonic signals below 20Hz, increasing in sensitivity down to 1Hz).

Trim controls
 Hi: Shelving filter ±3dB @ 25kHz (±1dB @ 4.5kHz).
 Mid: Bell filter ±2dB @ 1.4kHz, 0.45Q.
 Low: Variable alignment LF hi-pass filter ±3dB @ 45Hz (±1dB @ 90Hz).

CABINET

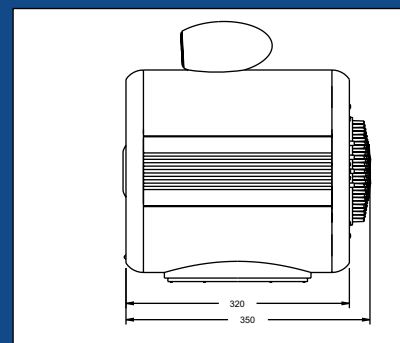
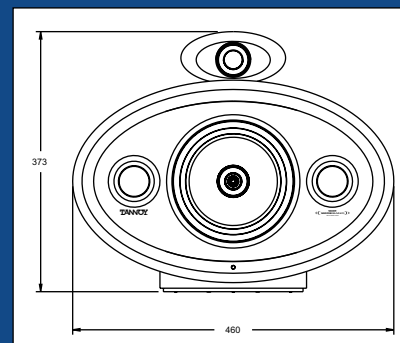
Drive units 200mm (8") Tannoy Dual Concentric™
 25mm (1") Wideband SuperTweeter

Cabinet volume / LF alignment 19.5 litres / reflex ported

Cabinet construction Laminated birch/MDF baffle with grey suede paint finish (black on SuperTweeter), detachable neoprene base (swivel bracket accessory available)

Total weight 15kg (33 lbs)

ellipse 8



ellipse 8

REFERENCE NEARFIELD MONITOR



Reference nearfield monitoring in:

- Music Studios
- Broadcast
- Post-production
- Audio Visual
- Mobile Recording
- Quality Control

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