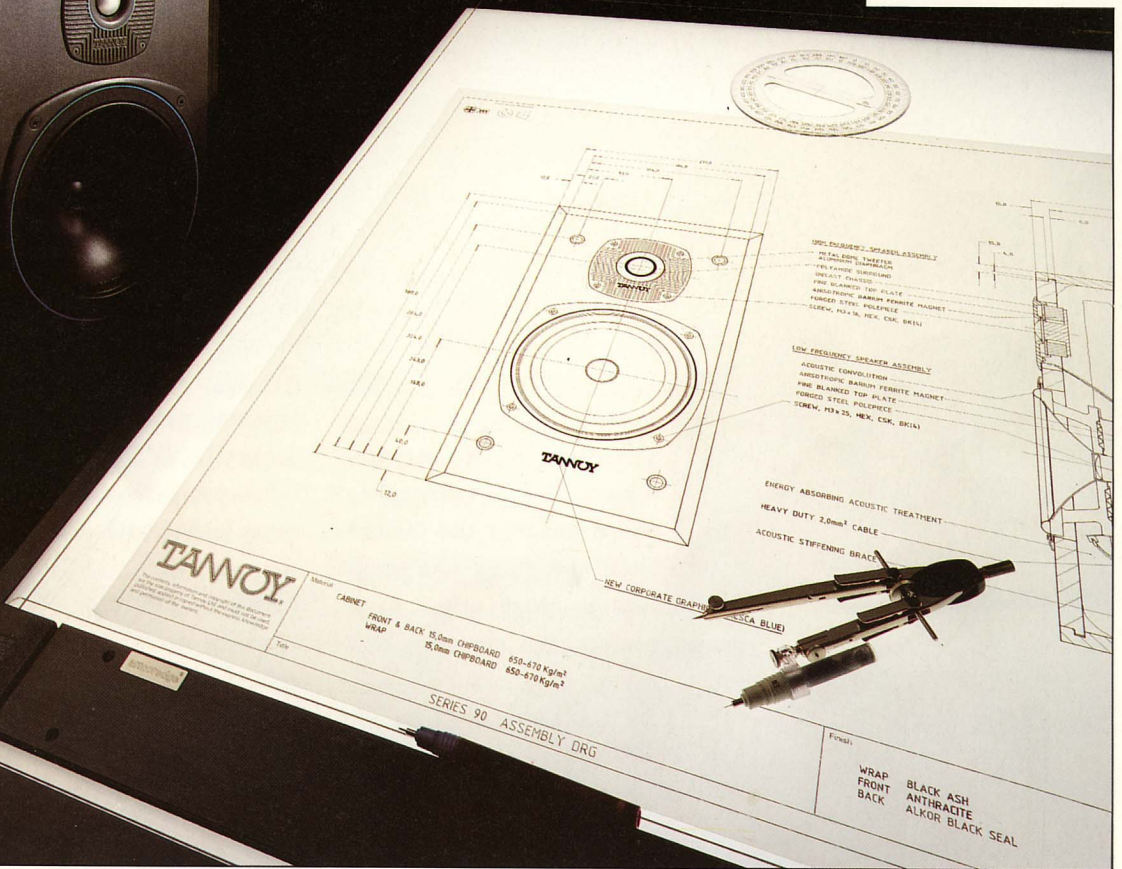


TANNOY

SERIES

90

HI-FI
LOUD
SPEAKERS



TANNOY HIGH-FIDELITY LOUDSPEAKERS

Tannoy Integrated Loudspeaker Systems are the choice of discriminating music lovers the world over. Renowned for unprecedented accuracy and naturalness, they have long been the choice of professional users in the recording, broadcasting and sound engineering industries. In fact many of the world's leading studios have professional monitor systems which were developed by Tannoy design engineers.

The result of such dedication to quality is that, whatever the style of music or its source, Compact Disc, records or tape, Tannoy loudspeakers perform to a standard unsurpassed by other manufacturers.

INNOVATIVE EXCELLENCE

Being the only manufacturer to have been awarded Japan's prestigious 'Golden Sound' award twice

speaks for itself. The excellence of Tannoy loudspeakers has long been recognised in Japan where the GRF Memory won the prestigious Stereo Sound 'State-of-the-Art' award. But Tannoy's devoted following extends far beyond Japan to those seeking excellence all over the world.

Catering for all requirements, the loudspeaker range includes the famous Dual Concentric models as well as those using metal

dome tweeters and separate bass units.

A HOUSEHOLD NAME

Although some dictionaries refer to Tannoy as the generic term for public address systems the company has in fact been designing and building specialised high quality loudspeakers for over 60 years. The history of the company goes back to shortly after the start of broadcasting in London. Guy R Fountain was an engineer who owned a London garage. In common with many commercial garages at the time, recharging batteries for the new radio sets became a profitable side line for his business.

AN ENTERPRISING BEGINNING

An enterprising man, Guy Fountain



perfected an electrolytic rectifier which was simple and reliable enough for home use. It was then he coined the name Tannoy. His rectifiers used two metals - Tantalum and a lead alloy - hence Tannoy. Not long after Guy's first Tannoy factory was established and he began experiments with moving coil loudspeakers using DC energised magnets. Early in 1930 the company won a contract to supply the Bertram Mills Circus with a sound reinforcement system. The company never looked back.

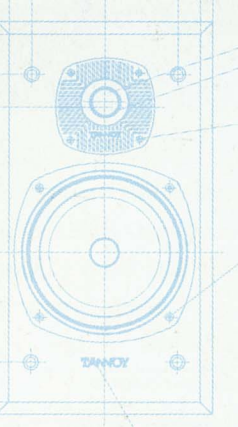
MOVING WITH THE TIMES

Wartime demand for mobile, portable systems made Tannoy famous for its communications systems. Later Tannoy equipment was installed both in the House of Commons and in major United Nations buildings. Soon, there was scarcely a country in the world where Tannoy had not created a vital link in international debate.

The 1940s and 1950s established Tannoy as the leading manufacturer of recording studio monitors outside the USA. By this time Tannoy had become well-known for its high quality loudspeakers supplying the fast growing audio and hi-fi markets. It was at this time that the first Dual Concentric loudspeaker was produced.

UNSURPASSED PERFORMANCE

Design by one of the strongest audio engineering teams in the business has led Tannoy to achieve numerous Hi-Fi Choice Best Buys and Recommended accolades. Tannoy's is a team that designs loudspeakers from the bottom up. Musical excellence is first designed in and then production values and quality control are applied to keep it



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UNPRECEDENTED ACCURACY

An important part of Tannoy's design approach has always been to produce loudspeakers with levels of performance beyond the most exacting specifications of contemporary disc and tape playing equipment.

Sound systems of unprecedented accuracy and naturalness are the result of Tannoy's wealth of experience together with computer based research and production methods, rigid quality control and a tradition of superb craftsmanship.

Loudspeaker design can no longer be thought of as a black art. Today it is possible to use computers to model designs and predict results. Comprehensive test equipment is used to pin-point problems with cabinets or drive units; anechoic chambers assist in producing accurate measurements. Computer aided design (CAD) and sophisticated test equipment are used

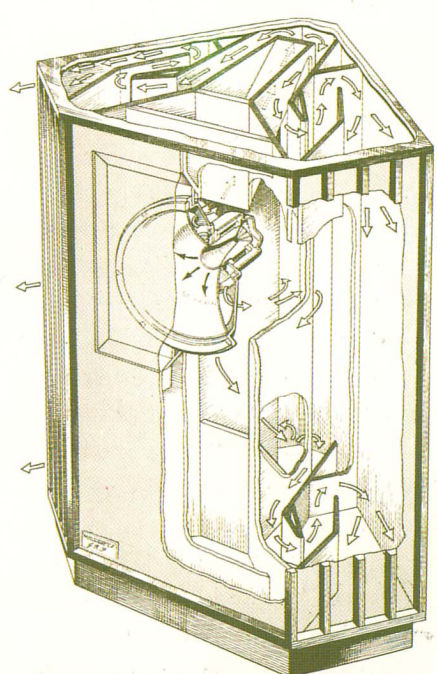


extensively at Tannoy but we always remember that listening tests must be the final judge.

THE CONTROL OF MUSICAL EXCELLENCE

Approved to 05-24 military requirements, Tannoy follows a policy of stringent quality control procedures using sophisticated measurement facilities. Tight quality control is more easily achieved because all the loudspeakers are built in the Tannoy factory in Scotland. For example, all drive units are designed and manufactured in-house. All incoming parts are thoroughly tested to ensure that they are as specified. Not only is all data computerised but computer aided design is used to ensure that every single loudspeaker meets

Tannoy's exacting standards. A policy of checking and double checking ensures that the musical excellence we design into every loudspeaker stays there.



Cross section of early G.R.F. enclosure



A few examples of albums and CD's mixed or mastered using Tannoy Loudspeakers

DUAL CONCENTRIC LOUDSPEAKERS

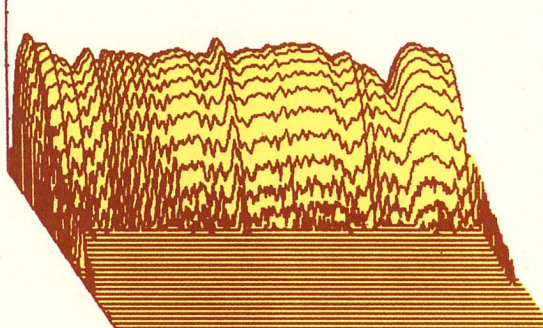
The Dual Concentric principle gives the hi-fi enthusiast the benefits of a true studio monitor. Because the real harmonics and dynamics of the instruments and voices are retained, the music is clearer and more natural. The stereo image is sharper and more convincing.

A SINGLE POINT SOURCE

The benefits of having the high frequency driver sharing the same chassis as the bass driver are that the whole drive unit operates across the audio bandwidth as a single point source. The audio signal is supplied

pared to mass yet with high self damping properties. Careful shaping of the flare of the cone ensures the most natural midband sound. To achieve maximum sensitivity and high power handling flat cross-section high quality copper wire is edge-wound on a high temperature kapton former for the bass coil.

are made up of the highest quality components and are hard wired. By



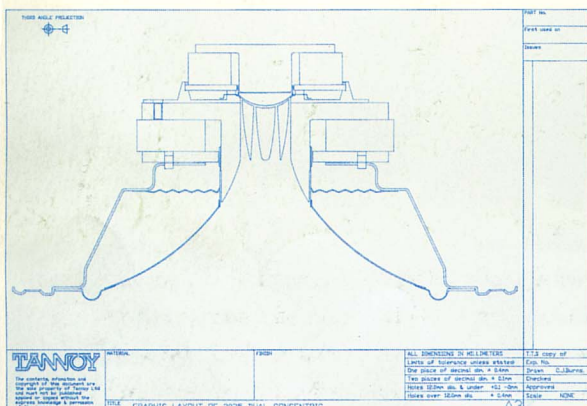
DMT TECHNOLOGY

The high frequency unit is an aluminium diaphragm suspended by a polyamide surround. The use of this Differential Material Technology gives the high frequency driver very linear, piston-like characteristics with little variability due to temperature variations. Most importantly, it also gives very good self damping. With the addition of ferro-fluid damping and cooling liquid this helps push the first break up mode

reducing unnecessary resistance and impedance to the absolute minimum this gives a cleaner, more detailed sound. Polyester capacitors and iron-dust core inductors are laid out to minimise inter-component coupling and, of course, positioned well away from the magnetic fields of the drive units.

INTERNAL BRACING

Internal bracing of the drive units via a lossy coupling not only allows the cabinet to be braced to reduce panel resonance, but also disperses unwanted HF energy from the driver. The overall result is an increase in 'speed' and reduced transient smear.



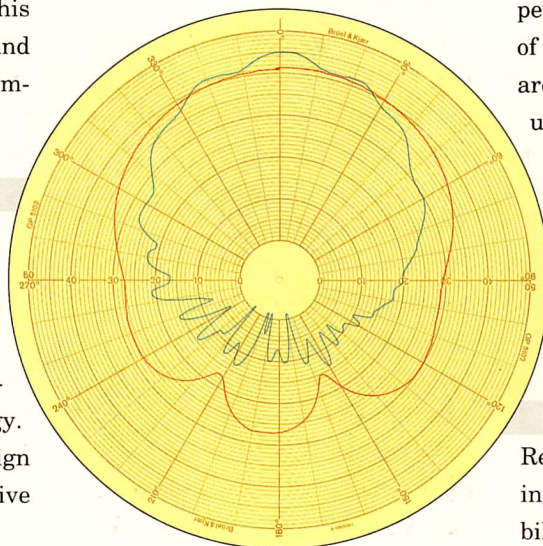
to each driver by a time compensated crossover, that aligns both high and low frequency sound sources towards a single point on the same axis. This eliminates unnatural time delays and produces almost tactile stereo images of tremendous stability.

THE SERIES 90

All the thinking behind previous Dual Concentric models has gone into the Series 90. The result is an exceptional range of products which we believe to be at the forefront of Dual Concentric technology. At its heart is the totally new design of the 8inch dual concentric drive unit.

The bass cone is precision formed from polyolefin co-polymer, a plastics material with high rigidity com-

pared to mass yet with high self damping properties. Careful shaping of the flare of the cone ensures the most natural midband sound. To achieve maximum sensitivity and high power handling flat cross-section high quality copper wire is edge-wound on a high temperature kapton former for the bass coil.



HARDWIRED CROSSOVERS

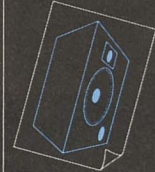
All crossovers utilised in the DC range

BI-WIRING

All Tannoy series 90 loudspeakers permit bi-wiring if desired. Two pairs of loudspeakers cables per speaker are required, one to connect the bass unit and one to connect the tweeter. Splitting the signals for both bass and treble separates the ground paths reducing driver interaction which leads to a far cleaner sound with full more natural dynamics.

EXCELLENT STEREO IMAGING

Restricted dynamic range is becoming more apparent with the availability of high quality digital recordings and Compact Discs but the Series 90 speakers do not suffer from this dynamic compression. In addition

TANNOY**SERIES****90**

tion, the directivity of the dual concentric drivers is controlled so that the speakers can be positioned close to side walls without compromising their excellent stereo imaging abilities.

DC1000

Offering excellent bass extension for its size, this compact speaker has a ducted port tuned for fast, accurate bass.

- 8inch Dual Concentric DMT driver
- Single point source
- Bi-wired, gold terminals
- High sensitivity
- Hardwired quality crossover
- Rigidly braced driver
- Ducted port system
- Compact design
- Black ash or rosewood finish

DC2000

Designed to deliver high sensitivity and bass extension, the DC2000 is a compact, floor-standing speaker.

Floor coupling spikes may be used for optimum bass and midband clarity and allow the speaker to be tilted to an optimum listening position. Nylon screw-in feet may be used on a highly polished floor.

- 8inch Dual Concentric DMT driver
- 8inch bass unit, driven below 400Hz
- Bi-wired, gold terminals
- High sensitivity
- Hardwired quality crossover
- Cross braced drivers and cabinet
- Closed box system
- Floor standing design with coupling spikes
- Black ash finish

DC3000

A floor-standing loudspeaker finished in either a black ash or rosewood veneer, which has been designed to reduce standing waves by avoiding parallel long dimensions. A slotted rear port is tuned to achieve a real room response as low as 30Hz and a

low 'Q' ensures fast accurate bass with a good dynamic response and little overhang. Additional damping and mass loading is facilitated by a space at the base which may be weighted with dry sand or lead shot. By reducing the centre of gravity this, together with the floor coupling spikes, keeps the speakers from rocking and thus reducing the dynamic quality of the system.

- 8inch Dual Concentric DMT driver
- 8inch bass unit, driven below 400Hz
- Bi-wired, gold terminals
- High sensitivity
- Hardwired quality crossover
- Medite cabinet for high rigidity
- Cross braced drivers and cabinet
- Slotted port system
- Floor standing design with coupling spikes
- Mass loaded cabinet
- Wired with Van den Hul cable
- Black ash or rosewood veneers

DISCRETE SYSTEM LOUDSPEAKERS

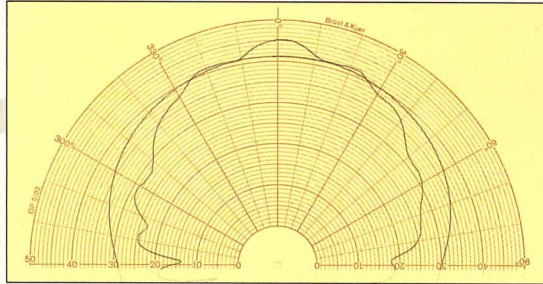
With the Planet series Tannoy succeeded in producing a range of hi-fi speaker systems capable of full dynamic range performance from compact cabinets. The series won many awards and set new standards in compact loudspeaker design.

EVEN BETTER PERFORMANCE

Highly acclaimed by the specialist press both in the UK and in most major countries, the Series 90 of discrete loudspeakers is a further development of the highly successful Planet series. Only now, with the Series 90, is Tannoy content that it has produced a metal dome tweeter which betters the performance quality of the old soft plastics dome. As always the Tannoy engineering team seeks for excellence. Tannoy will only market a product when it meets our highest standards of performance.

DMT TECHNOLOGY ENSURES SUCCESS

The use of Differential Material Technology (DMT) ensures the new aluminium dome tweeter behaves as a true piston with the first break-up mode way above the audible range. The 25mm aluminium diaphragm is coupled to a high temperature polyamide insulated coil wound onto a



Kapton former. A polyamide plastics material was chosen for the suspension because it offers good self-damping and is not variable with temperature. Ferrofluid damping and cooling liquid is used to improve performance and power handling. This technique avoids undesirable eddy current coupling effects which are found in one-piece metal dome designs.

HIGH SENSITIVITY

The bass drivers are constructed with rigid frames using large magnets to ensure high sensitivity and good low frequency control. The cone material is polyolefin co-polymer, chosen for its high rigidity, low mass and high internal damping. The cone is accurately precision formed with a flare optimised to produce the most neutral and natural midrange.

BETTER DAMPING AND CONTROL

Because of their sonic qualities we use polyester capacitors, high quality resistors and iron-dust core inductors. The high frequency unit (tweeter) is coupled by an auto transformer with a series capacitor and damping resistor. This maintains a very low drive impedance to the tweeter giving better damping and control.

BI-WIRING

All Tannoy Series 90 loudspeakers permit bi-wiring if desired. Two pairs of loudspeakers cables per speaker are required, one to connect the bass unit and one to connect the tweeter. Splitting the signals for both bass and treble separates the ground paths leading to a cleaner sound with full natural dynamics.

E11

A compact speaker producing an excellence of sound quality which belies its size. A simple crossover of high quality components integrates the 6.5 inch bass unit with

the 25mm aluminium dome. Although designed for stand mounting, a rear facing port also allows the speakers to be placed close to a wall.

- 25mm DMT aluminium dome tweeter
- 6.5 inch polyolefin co-polymer bass driver
- Hardwired, high quality crossover
- Bi-wired
- Ducted port system
- Black ash finish

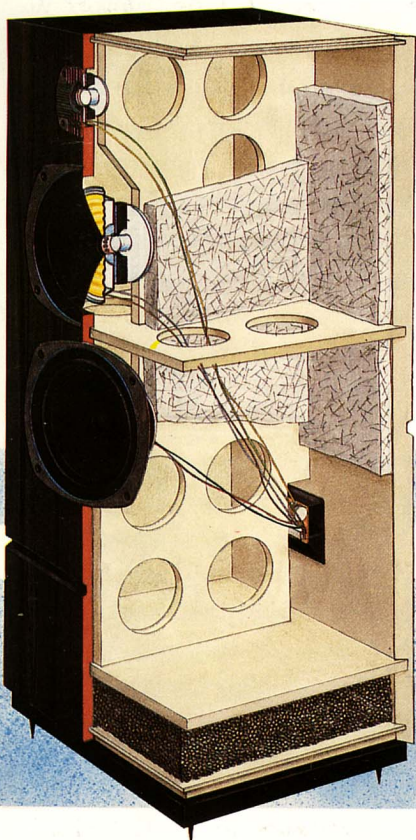
M15

A two-way 8 inch bass driver loudspeaker which sets new standards for this classic cabinet size. The front ported design allows for free-field mounting on stands.

- 25mm DMT aluminium dome tweeter
- 8 inch polyolefin co-polymer bass driver
- Hardwired, high quality crossover
- Bi-wired
- Ducted port system
- Black ash or rosewood finish

M20

Although similar in size to the M15, this loudspeaker differs in many ways. Not only is the cabinet finished in a real wood veneer of black ash or





rosewood but the cabinet and drivers are braced with a lossy coupling. This reduces panel resonance and diffuses unwanted treble energy in the cabinet, increasing perceived speed and reducing transient smear.

- 25mm DMT aluminium dome tweeter
- 8inch polyolefin co-polymer bass driver
- Hardwired, high quality crossover
- Bi-wired, gold terminals
- Cross braced drivers and cabinet
- Ducted port system
- Wired with Van den Hul cable
- Black ash or rosewood veneers

J30

A compact, floor-standing loudspeaker configured to deliver both high sensitivity and good bass extension. Floor coupling spikes may be used for optimum bass/midband clarity and allow the speakers to be tilted back for optimum listening position.

Nylon screw in feet may be used on a highly polished floor.

- 25mm DMT aluminium dome tweeter
- 8inch polyolefin co-polymer bass driver
- 8inch polyolefin co-polymer Auxiliary Bass Radiator (ABR)
- Hardwired, high quality crossover
- Bi-wired, gold terminals
- Cross braced drivers and cabinet
- Closed box system
- Floor standing design with coupling spikes
- Wired with Van den Hul cable
- Black ash or rosewood finish

J95

A tall, floor-standing loudspeaker finished in real wood veneers. The cabinet size and construction together with the driver configuration produces a fast accurate bass with good dynamic response and low overhang. Additional damping and mass load-

ing is facilitated by a space at the base which may be filled with dry sand or lead shot. By reducing the centre of gravity this, together with the floor coupling spikes, keeps the speakers from rocking and thus reducing the dynamic quality of the system.

- 25mm DMT aluminium dome tweeter
- 8inch polyolefin co-polymer bass/mid driver
- 8inch polyolefin co-polymer bass driver, driven below 400Hz
- High sensitivity
- Hardwired, high quality crossover
- Bi-wired, gold terminals
- Closed box system
- Cross braced drivers and cabinet
- Medite cabinet for high rigidity
- Floor standing design with coupling spikes
- Mass loaded cabinet
- Wired with Van den Hul cable
- Black ash or rosewood veneers

LOUDSPEAKER SPECIFICATIONS



MODEL NO.	DC1000	DC2000	DC3000
RECOMMENDED AMPLIFIER POWER	10-120 WPC	10-150 WPC	10-175 WPC
NOMINAL IMPEDANCE	8 ohms	6 ohms	6 ohms
MINIMUM IMPEDANCE	5 ohms	4 ohms	4 ohms
SENSITIVITY (2.83V @ 1m)	90 dB	92 dB	92 dB
FREQUENCY RESPONSE +/-3dB	48Hz-25kHz	44Hz-25kHz	30Hz-25kHz*
CROSSOVER FREQUENCY	2.3kHz	400Hz & 2.3kHz	400Hz & 2.3kHz
CROSSOVER TYPE	Overdamped first & second order with impedance compensation		
TERMINALS	Gold, bi-wired	Gold, bi-wired	Gold, bi-wired
SYSTEM TYPE	Ducted port	Closed box	Slotted port
INTERNAL VOLUME	17 litres	31 litres	40 litres
DIMENSIONS (WxHxD) mm	248x497x205	260x716x253	260x910x300
WEIGHT EACH	8.1 Kg	19.9 Kg	26.7 Kg

* Typical room response

MODEL NO.	E11	M15	M20	J30	J95
RECOMMENDED AMPLIFIER POWER	10-90 WPC	10-100 WPC	10-100 WPC	10-110 WPC	10-125 WPC
NOMINAL IMPEDANCE	8 ohms	8 ohms	8 ohms	8 ohms	8 ohms
MINIMUM IMPEDANCE	6 ohms	6 ohms	6 ohms	6 ohms	5 ohms
SENSITIVITY (2.83V @ 1m)	88 dB	89 dB	89 dB	90 dB	90 dB
FREQUENCY RESPONSE +/-3dB	55Hz-20kHz	48Hz-20kHz	48Hz-20kHz	40Hz-20kHz*	30Hz-20kHz*
CROSSOVER FREQUENCY	3kHz	3kHz	3kHz	3kHz	400Hz & 3kHz
CROSSOVER TYPE	First order low pass, overdamped second order highpass				
TERMINALS	Bi-wired	Bi-wired	Gold, bi-wired	Gold, bi-wired	Gold, bi-wired
SYSTEM TYPE	Ducted port	Ducted port	Ducted port	ABR	Closed box
INTERNAL VOLUME	11 litres	17 litres	17 litres	31 litres	45 litres
DIMENSIONS (WxHxD) mm	210x388x205	248x497x205	248x497x205	260x716x253	260x910x300
WEIGHT EACH	5.2 Kg	7.0 Kg	3.4 Kg	15.8 Kg	23.6 Kg

* Typical room response

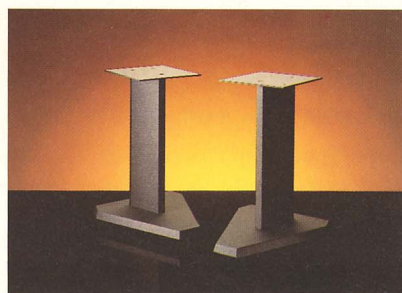
LOUDSPEAKER STANDS



TS 250

Designed to complement the stylish good looks of the speakers, the stands are both structurally rigid and aesthetically pleasing.

The cast base, ribbed for strength,



TS 400

can be fitted with either three floor coupling spikes or nylon domes. The extruded aluminium upright is designed to allow mass loading/dampening, with lead shot or dry sand if



TS 500

desired and has a separate channel that can hide the loudspeaker cable. The solid top plate is tapped to allow the optional use of three upward pointing loudspeaker coupling spikes.

Remember to take care with any amplifier, irrespective of power output, to avoid abnormal conditions such as switch-on surges or output overload (clipping) which may result in power peaks greatly in excess of rated output. The high peak power handling of Tannoy loudspeakers will allow responsible use with larger amplifiers on wide dynamic range material. Due to our policy of continuous improvement, all specifications are subject to change without notice. Natural wood finishes may vary due to the availability of sustainable harvested woods.

Part No. 64830170

TANNOY

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