

GOLD REFERENCE

Owner's Manual



#### CONTENTS

- 5 The Prestige Dual Concentric<sup>TM</sup> Gold Reference
- 6 Tannoy A Short History
- 8 Over 80 Years of Audio Innovation
- 18 Unpacking Instructions
- 20 Initial Positioning
- 22 Cable Choice
- 23 Amplifier Choice
- 24 Connection in Single Wire Mode
- 26 Connection in Bi-Wire Mode
- 28 Bi Amp Mode
- 30 Connection of Earth or 'Ground' Lead
- 31 Grille Removal
- 32 Loudspeaker System Adjustment

- 34 Tannoy Dual Concentric Drive Unit
- 35 Running In
- 36 The High Frequency Section
- 37 The Low Frequency Section
- 38 The Magnetic Circuit
- 38 Alcomax Magnet
- 39 Compound Horn
- 40 The Crossover Network
- 41 Care of the Cabinet
- 42 Tannoy Quality
- 43 Fault Finding
- 44 Warranty
- 46 Technical Specifications



### The Prestige Dual Concentric<sup>™</sup> Gold Reference

Thank you for investing in high performance loudspeakers incorporating Tannoy's world renowned Dual Concentric driver technology. First developed and patented by Tannoy's Chief Engineer, Ronnie H Rackham in 1947, the 15" Monitor Black offered class leading performance from a true full bandwidth point source transducer. As the most accurate loudspeaker available, initial usage was as a calibration instrument for microphones, before finding favour as monitors in the most famous recording studios in the world, and with major radio and television broadcasters. This heritage has underpinned Tannoy's global success in audiophile and professional loudspeakers for over 65 years.

Over this period of time, evolution and development of the Dual Concentric concept has seen the technology continue as the preferred choice of audiophiles, recording engineers and musicians around the world. This has been as a result of implementing new materials and developing bespoke manufacturing processes. While today, the designs benefit from advanced computer aided design and software modelling, we have not lost sight of the traditional values that form the most musically rewarding loudspeakers available.

Building on the strengths of the drivers launched in 2006 as part of the Prestige SE series, the Gold Reference DC drivers benefit from technologies developed from Tannoy's Kingdom Royal flagship speaker project. These include new HF compression driver assemblies with Mylar<sup>™</sup> roll surrounds and new cone materials which blend traditional paper pulp fibres with advanced synthetic microstrands to give a dynamic bass performance with a low colouration midrange. Along with a number of other revisions across the series, the Gold Reference Dual Concentric drivers and the Prestige GR loudspeakers represent Tannoy's most refined and accomplished loudspeakers to date, while remaining faithful to the original design principles.

### TANNOY - A SHORT HISTORY

In the early days of broadcasting, radio sets needed both low and high voltage DC power that had to be supplied by batteries. The lead acid batteries used in the radio sets of the time needed regular recharging.

In London, in 1926, Guy R. Fountain perfected a new type of electrical rectifier with the aim of designing a charger more suitable for use in the house. His rectifier consisted of two dissimilar metals held in a special electrolyte solution. One metal was Tantalum and the other an alloy of Lead. So successful was this invention that Guy Fountain founded a British Company called Tannoy (a contraction of the words 'Tantalum' and 'Alloy'). Tannoy began to diversify and soon became internationally known and highly regarded in all aspects of sound reproduction.

Moving coil loudspeakers with DC energised magnets began Tannoy's continued success in terms of technology. A discrete two-way loudspeaker system followed in 1933, and shortly after a range of microphones and loudspeakers capable of high power handling.

Tannoy has always been at the forefront of the communications revolution, developing its own equipment and production technology. The company built a wealth of knowledge and experience, which has proved invaluable in the development of loudspeakers for a truly wide range of applications.

Guy Fountain retired from the company in 1974 but the Tannoy Company continues his philosophy dedicated to the accurate and realistic reproduction of music for both enthusiasts and professionals around the world.

Tannoy is now part of the TC Group, whose goal is to design, produce and distribute the best engineered, most recognised and respected brands of audio products in the world.





## **OVER 80 YEARS OF AUDIO INNOVATION**

Tannoy has been involved with audio related manufacturing in the UK for more than 80 years. The company's core business is, and always has been, loudspeaker design and manufacturing. For nearly 40 years, the hub of this activity has been in Scotland where the company's headquarters and manufacturing facility are located.

Few companies' products have such a profound impact on our lives that their names enter the dictionary as generic descriptions for their inventions. The word Tannoy is synonymous with sound, recognised not only as a proprietary Brand name in the Oxford English Dictionary but also defined as a word that is commonly used within the English language: *v. trans., to call (someone) by public address system.* 

Audio related manufacturing commenced at Tannoy in the late 1920's at a time when other landmark industry events were beginning to take place. This era saw the first commercial electrical recording by HMV and, soon after that, the first release of records from The Decca Record Company. At the same time the company became interested in the world of Public Address and early in 1930 Tannoy won a contract to supply the most famous circus in Europe, Bertram Mills, with a sound reinforcement system. From that time onwards the company never looked back.



Introduction of the 15" Monitor Black and 12" version later with an Alnico magnet system, where uniquely the high frequency compression driver horn flare was continued by the shape of the bass cone, giving previously unheard of low colouration levels.

1947



Introduction of 12" Monitor Silver the first Canterbury enclosure.

### 1955



Monitor Gold slightly lower se smaller enclosure compression driv using an advanc moulding, still u Along with some designs, the M enclosures, Lancast some of the most fa

190

# 1953

Upgraded to Monitor Silver, with more open chassis and separate crossover, initially in the famous compound horn Autograph cabinet and later corner GRF.



## 1958

Introduction of Monitor Red in 15" and 12" variants, with a 10" model appearing three years later. The 'Red' offered improved power handling over the silver and were used in the famous Monitor Red cabinets.





series, with nsitivity to suit is and with new er rear chamber ced thermoset sed to this day. of the existing lonitor Gold er and IIILZ were amous enclosures.

### 57



Pioneering use of Anisotropic Barium Ferrite (ABF) magnets to replace Alnico on the Mk. 2 HPD's bringing, amongst others, the imposing Buckingham and Windsor monitors.

### 1978



Westminster Royal sees a return to Alnico magnets, and a larger high rigidity birch ply cabinet. Canterbury 12 and 15 follow a year later.

### 1987

# 1974

High Performance Dual (HPD) series introduced, with a foam low frequency surround, and strengthening ribs on the rear of the cone, a feature still used on our new 15" Prestige drivers.



## 1982

First Prestige range, featuring Westminster, GRF Memory, Stirling and Edinburgh, was set to conquer the Japanese audiophile market.



## 199

Tulip Waveguide ( series introduces, Edinburgh, GRFM a using ferrite ma Westminster Royal models continued magne





Kingdom flagship introduced, with 18" bass driver, 12" SuperDual<sup>TM</sup> and 1" SuperTweeter<sup>TM</sup>. Smaller 15" bass/ 12" Dual version a year later, and 12" bass combined with 10" Dual model in 2000.

1997



ST100 and ST200 SuperTweeters introduced, to complement wide bandwith sources such as SACD, and enhance the Prestige listening experience.

### 2000



Sandringham, Kensing Yorkminster HE models a 8, 10 and 12" drivers res

### 2003

### 2

TW) Prestige with Stirling, nd Westminster, gnets. The and Canterbury to use Alnico ts.



# 1998/9

HE (Hard Edge) versions of the Prestige Dual Concentric driver featuring twin-roll fabric surround.



### 2001

Return of the famous Autograph (with HE cone surround). Produced as a special limited edition for selected markets.





gton and added, with spectively.



Prestige upgraded to SE (Special Edition) status, featuring Westminster Royal, Canterbury, Yorkminster Royal, Kensington, Turnberry and Stirling. Featuring PCOCC<sup>™</sup> and a carefully chosen selection of audiophile components, to deliver optimal tonality and transparency.

# 2006/7



GR (Gold Reference) Prestige models introduced. Westminster Royal, Canterbury and Kensington feature technology pioneered with the Kingdom Royal, such as optimally terminated Mylar compression driver surrounds and cryogenic crossover, while Turnberry and Stirling models feature new computer optimised crossovers, backed up by extensive listening tests. All models display an unsurpassed quality of cabinet work and trim detail.

### 2013

# 2005

Autograph Mini, with 4" cone introduced, the smallest Dual Concentric ever but with a surprisingly large presentation.



## 2010

Kingdom Royal flagship loudspeaker launched, with 15" bass, 12" Dual and 1" magnesium SuperTweeter, building upon the SE cable and crossover component philosophy, but enhanced with cryogenic treatment.



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Heritage, tradition and timeless styling...

innovation and pioneering audio design







### UNPACKING INSTRUCTIONS

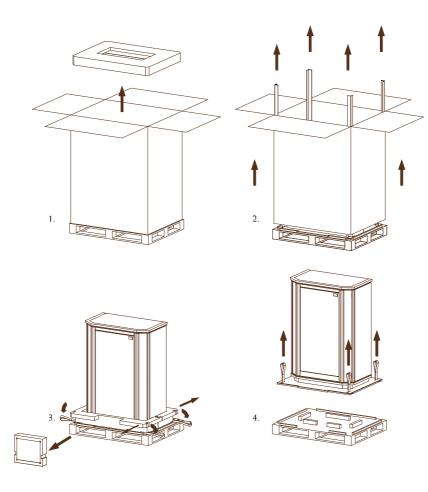
Each Westminster Royal GR loudspeaker is very heavy, weighing 138 kg (304 lbs).

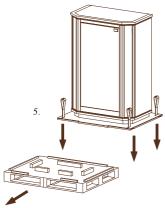
Do not attempt to unpack single handed. We recommend that five people are present to unpack the product for safety reasons. Examine all pieces of packing material and inspect the carton for signs of external damage. If there is evidence of excessive damage to the packaging and resulting damage to the loudspeaker please inform the carrier and the supplier immediately. Always keep the packaging in such circumstances for subsequent examination.

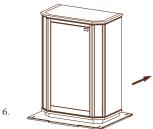
Tannoy strongly suggests that you store the complete packaging set for possible future use.

Check the contents of the accessories pack for the pair of loudspeakers as follows:

- Bi-wire links (x4)
- Metal cups (x6)
- Tin of wood wax (x1)
- Grille key (x1)



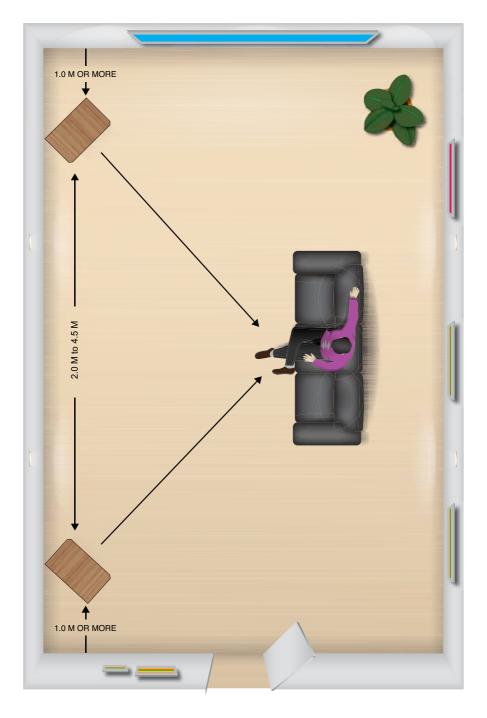




#### INITIAL POSITIONING

Locate the loudspeakers so that the favourite listening position is approximately 15° from the axes of the cabinets. The axes of both cabinets should intersect at a point slightly in front of the listening position. Remember that the proximity of the loudspeakers to walls and corners will affect the sound. Some experimentation will probably be needed to fine-tune the stereo image depth and low frequency sound quality. Room corners have the effect of increasing very low frequency sound energy. Reflective adjacent walls may upset the stereo image by causing unwanted reflections.

In order to experience the best acoustic performance and fully realise their exceptional stereo image depth capabilities, the loudspeakers should ideally be used at least 1m from any sidewall or reflective surface and and as close to the rear wall as possible. After initial positioning, the metal cups provided should be placed under the cones on the underside of the loudspeaker. This should be done by two people, taking appropriate safety precautions.



#### CABLE CHOICE

Always use the best quality of cable available within your budget. High quality audio signals passing from the amplifier to the loudspeaker are unusual in their demands on the cable. Wide dynamic range and wide bandwidth information has to coexist with the ability to transmit peak currents of at least 10 amps, without incurring any loss or signal impairment. This explains why the sound quality of the music reproduced by the loudspeakers is so dependent on the physical properties of the cables connecting them to the amplifier. It also explains why bi-wiring is the preferred connection method, so that low frequency and high frequency signals do not have to share the same cable.

We would recommend that you always keep the cable runs the same length for each speaker. Remember that cable construction can affect the sound quality so be prepared to experiment to find a cable that suits your ear and audio system. Please consult your dealer for further advice on choosing cables.





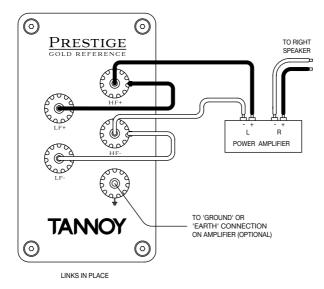
#### **AMPLIFIER CHOICE**

Consult the product specification section within this manual as this clearly shows the acceptable power range for amplifier matching to your speakers. The high peak power handling of Tannoy loudspeakers permits responsible use with more powerful amplifiers - Please read the Warranty conditions (page 44).

As with all loudspeaker systems, the power handling is a function of voice coil thermal capacity. Care should be taken to avoid overdriving any amplifier, as this will cause output overload resulting in 'clipping' or distortion within the output signal. This can cause damage to the speakers if done for any extended period.

Generally an amplifier of higher power that is running hard, but free of distortion, will pose less risk of damage to the loudspeaker than a lower power amplifier continually clipping. Remember also that a high powered amplifier running at less than 90% of output power generally sounds a great deal better than a lower powered example struggling to achieve 100%. An amplifier with insufficient drive capability will not allow the full performance of the loudspeakers to be realised.

Some users may have a preference for low power valve (tube) amplifiers which are below the recommended minimum amplifier power. While this does not cause potential for damage, consideration should be given to musical preferences, maximum listening levels and room size.



#### CONNECTION IN SINGLE WIRE MODE

Before proceeding, ensure amplifier is switched off (applies to all methods of connection).

First link the HF+ terminal to the LF+ terminal and HF- terminal to the LF- terminal, using the links provided in the accessories pack.

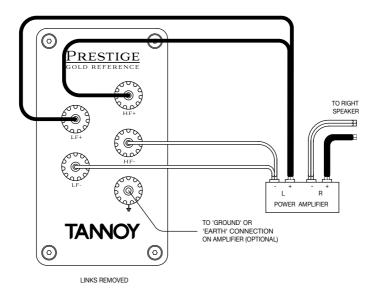
For optimum performance in single wire mode, loudspeaker cable connections from the amplifier should be made to the high frequency (HF) terminals of the loudspeaker:

The positive (plus) terminal on the amplifier left channel (marked + or coloured red) must be connected to the positive HF terminal on the left speaker. The left speaker is the one on the left as you look at the stereo pair from your listening position.

The negative (minus) terminal on the amplifier left channel (marked - or coloured black) must be connected to the negative HF terminal on the left speaker. Repeat this connection process for the right speaker. Remember that the positive (+ or red) on the amplifier must be connected to the positive (+ or red) on the speaker and the negative (- or black) to negative.

Select a signal source, such as a CD player, switch on the amplifier and slowly turn up the volume control to check that both loudspeakers are reproducing bass and treble information.





#### CONNECTION IN BI-WIRE MODE

Please note in bi-wire mode that the link cables should not be used. Best results will be obtained with a specially designed bi-wire speaker cable.

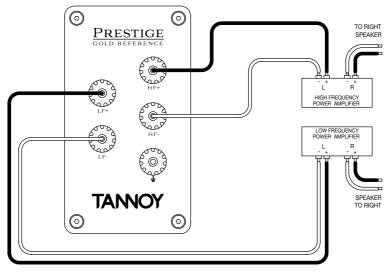
If your amplifier is not equipped with two sets of output terminals, at the amplifier end of the cables, twist the Left LF+ (positive) and the Left HF+ (positive) together. Connect these to the amplifier Left channel positive terminal marked + (plus) or coloured red.

Twist the Left LF- (negative) and the HF-(negative) cables together and connect them to the amplifier Left channel negative terminal marked - (minus) or coloured black.

At the loudspeaker end connect the cables labelled Left LF+ and Left LF- to the left hand loudspeaker LF terminals, ensuring that you note the polarity markings on the cable sheathing. Then proceed to connect the Left HF+ and Left HF- to the HF terminals on the same loudspeaker.

Repeat this process to connect the right hand loudspeaker to the amplifier right channel output, once again ensuring that polarity is correct throughout.





LINKS REMOVED

#### BI - AMP MODE

Bi-amping extends the principle of bi-wiring one stage further. In this connection option separate power amplifiers are used for bass and treble signals in each loudspeaker. Four mono (or two stereo) amplifiers of the same type are required for a stereo pair of loudspeakers.

If two stereo amplifiers are used, it is recommended that one amplifier supply bass information to left and right loudspeakers and the other, the treble information.

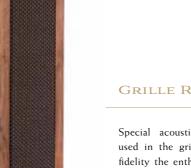
It is important not to use the link cables on the terminal panel, otherwise amplifier damage may result.



### Connection of Earth or 'Ground' Lead

To optimise performance further, use a shielded or screened loudspeaker cable in order to reduce unwanted radio frequency interference. The screening termination should be connected to the earth or ground (green) terminal on the loudspeaker and to the ground or earth connection on the amplifier. Alternatively, if you are not using a screened loudspeaker cable but wish to utilise the earthing facility, run a single cable between the loudspeaker and amplifier earth terminals.





2

### **GRILLE REMOVAL**

Special acoustically transparent cloth is used in the grilles. However, for ultimate fidelity the enthusiast will find it is best to use these loudspeakers with their grilles removed during listening. Grille removal is also necessary for access to the front panel controls.

The front grille is removed using the key provided. Turn the key in the key slot and pull the bottom of the grille away from the cabinet. The grille will drop down from its upper location. Take care not to damage the wooden lower part of the cabinet. To replace the grille engage the top of the grille into the slot in the cabinet and push the grill into the recess and lock in position.



#### LOUDSPEAKER SYSTEM ADJUSTMENT

Each loudspeaker is fitted with two controls located on the front baffle beneath the detachable grille. These high current switch blocks are labelled ROLL OFF and ENERGY. They can be used to compensate for the varied acoustic characteristics of listening rooms. The controls should be adjusted with the amplifier tone controls in the 'flat' or uncompensated position. Each loudspeaker should be adjusted individually. Rotating the amplifier balance control, to select first one loudspeaker and then the other, most easily achieves this.

The Energy control has five positions. It allows the output of the high frequency compression drive unit to be increased or decreased from the linear or 'flat' position over a frequency band from approximately 1 kHz to 27 kHz.

The Roll Off control has five positions (+2, level, -2, -4 and -6 dB per octave)

and provides adjustment at extreme high frequencies from 5 kHz to 27 kHz.

The Energy control has a shelving effect whereas the roll off control increases or decreases the slope of the extreme high frequency response.

The flattest, most linear response from the loudspeaker will be obtained with both controls set at the LEVEL position, and this position should be used for initial listening tests. If the overall quality of the high frequency sound seems too prominent the -1.5 or -3 positions for the Energy control should be tried. If the sound appears subdued in the treble region +1.5 or +3 settings may be preferred. Once the energy control setting has been established the Roll Off control can be adjusted to reduce or slightly increase the extreme high frequency content if necessary.



Remember the changes that can be made by moving either control from one position to another are subtle. They may not easily be heard if the programme material has very little content in the frequency band under consideration. Choose a well-balanced piece of music with a full spectrum of sound. The correct setting will be found when the loudspeakers are no longer evident and only the musical performance is heard.



#### TANNOY DUAL CONCENTRIC DRIVE UNIT

One of the unique advantages of the Tannoy Dual Concentric principle is that the low and high frequency sound radiation is generated on the same axis. The high frequency unit is mounted behind and concentrically with the low frequency unit. High frequency sound radiates from the centre of the low frequency unit through a carefully designed high frequency exponential horn. Low and high frequencies are therefore fully integrated at source. It is this feature that gives the Dual Concentric driver such unique sound reproduction qualities.

There are other significant benefits. The high frequency unit does not obstruct the low frequency unit in any way (a unique feature when compared with other so called coaxial systems). Polar dispersion of sound is symmetrical in both horizontal and vertical planes. By careful crossover network design the virtual acoustic sources of the high and low frequency units can be made to occupy the same point on the axis. Therefore the total sound appears to emanate from a single point source located slightly behind the drive unit. This means that the loudspeakers, when fed from a high quality stereo source, can recreate a full and accurate stereo image.





#### **RUNNING IN**

Like all loudspeakers, the drive unit in your Prestige GR speaker requires a while to reach optimum performance as the stresses in the materials relax, especially in the suspension system. For this reason, it is beneficial to run the system at fairly high levels at normal room temperature for approximately 20 hours to achieve best results.

### THE HIGH FREQUENCY SECTION

The high frequency driver consists of a wide dynamic range compression unit giving superb transient performance with a smooth uncoloured response. The compression unit feeds acoustic power through a multiple phase compensating device to the throat of a solid steel acoustic horn. This horn provides an acoustic impedance transformation to match the compression unit radiation into the listening environment.

An aluminium / magnesium alloy diaphragm, formed by a specially developed five-stage process, produces a piston with a very high stiffness to mass ratio. Optimum molecular grain structure gives long-term durability. Dome energy is terminated by a specially developed Mylar vented surround. A very low mass precision aluminium coil provides the driving force for the diaphragm, with fine multi-stranded copper lead out wires to ensure reliability. A rear damped acoustic cavity controls the compression driver response and ensures further correct acoustic impedance matching to the horn throat.



The response of the compression horn driver extends more than two full octaves below the crossover frequency to eliminate colourations that can arise through operation over the fundamental resonance region.



## THE LOW FREQUENCY SECTION

The low frequency section of the Dual Concentric driver has exceptional power handling and dynamic range. The low frequency cone piston is produced from selected paper pulp with synthetic fibre micro-strand additives. This is specially treated to absorb internal resonance modes.

The twin roll fabric surround is also damped and shaped correctly to terminate the moving cone and provide optimum compliance and linearity at large excursions. The cone piston is driven by a high power motor system consisting of a four-layer coil suspended in a precision magnetic air gap. The coil is wound with a special high temperature adhesive system and individually cured to ensure reliable operation at high peak power inputs. The shape of the low frequency cone is arranged to provide optimum dispersion of audio frequencies at both the high and low ends of the spectrum. The cone flare continues the high frequency horn profile to ensure a smooth transition at the crossover point.



### THE MAGNETIC CIRCUIT

An Alcomax 3 high energy magnet provides flux generation for both high frequency and low frequency driving motors. Precision air gaps contain the magnetic flux surrounding each coil. The high frequency air gap has a unique shunt member to apportion the total magnetic flux in the correct ratio between low and high frequency units. This gives an optimum acoustic balance. Precision machined, low carbon steel pole pieces ensure unsaturated operation, linear flux fields and a high heat sinking capability. High power inputs can therefore be handled with minimum change of impedance due to temperature effects. A very robust, high quality, precision pressure die cast chassis locates the whole magnet assembly and positions the moving parts with high accuracy. The chassis is clamped to the front baffle by 10 mounting bolts. This provides long term reliability without interfering with the acoustic radiation from the individual sections.

#### Alcomax Magnet

Alcomax 3 is an unusually high energy permanent magnet. The unusual iron / nickel alloy is doped with cobalt, aluminium and other rare metals to produce a magnetic material with very special properties. Alcomax 3 has a high remanent magnetism and energy product. In other words, it magnetises to a high level and retains that unusual degree of magnetisation. Alcomax 3 is also an electrical conductor, so damps any non-linear eddy current losses in the magnetic circuit giving reduced midrange distortion. These properties give the Dual Concentric drive unit using an Alcomax 3 magnet an exceptionally clean transient response and increased sensitivity.



## **COMPOUND HORN**

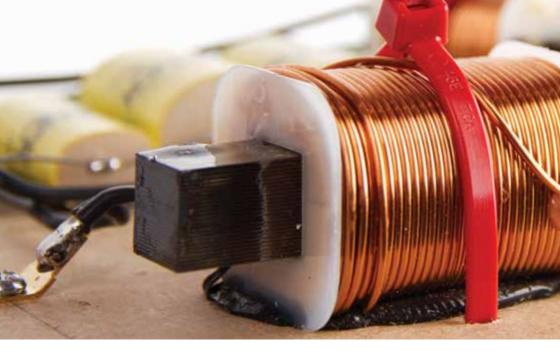
A horn loudspeaker consists of an electrically driven diaphragm coupled to a horn shaped device. The horn increases the coupling between the oscillating diaphragm and the listening environment by increasing the air loading presented to the diaphragm. Ordinary direct radiating loudspeakers are relatively inefficient because the energy present in the moving diaphragm is not transmitted to the air particles in the listening environment particularly efficiently.

The presence of a horn, loading the diaphragm, greatingly increases the resistive portion of the air load and more energy can be transferred to the environment for a given diaphragm energy.

Conversely, for a given level of sound generated by a horn loaded diaphragm, the amplitude of movement of the diaphragm will be lower than for the equivalent sound level generated by a direct radiating loudspeaker. Therefore the distortions present in the diaphragm at larger amplitudes will be reduced further, because the diaphragm has a larger air load that has a higher resistive value and also because the damping on the diaphragm will be greater. This results in a better transient performance.

The compound horn loudspeaker consists of a diaphragm with one side of the diaphragm coupled to a straight axis horn and the other side coupled to a long folded horn.

The Westminster Royal GR cabinet generates both horns using a rigid network of 30 individual panels. The internal construction is not easy to visualise. Figure 5 shows a perspective view of the internal construction of the rear folded horn with the front straight axis horn removed for clarity.



#### THE CROSSOVER NETWORK

During the design of the crossover network the acoustic, mechanical and electrical interactions of the high and low frequency sections have been fully analysed. The crossover is therefore an integral part of the design of the system. The crossover network provides complex equalisation in both amplitude and phase for each section and fully integrates the response at the crossover point. All components are high precision, low-loss and thermally stable. Specially damped polypropylene audiophile capacitors are used, together with non-inductive thick film resistors and low loss laminated core inductors. A unique shunt element technique controls the motional impedance of the high frequency unit.

All components in the crossover network are hard wired to eliminate unwanted metal-to-metal contact and ensure freedom from vibration. The components are laid out to minimise inter component coupling and are placed well away from the driver magnetic field. Top quality PCOCC<sup>TM</sup> 99.9999% purity copper wiring is used throughout, with 99.99% purity silver link wires on the crossover boards. High current switch blocks with gold plated screw terminals permit user adjustment of high frequency sound radiation to suit differing listening environments. Speaker terminals are WBT Nextgen<sup>TM</sup>, mounted on a specially designed non resonant acrylic panel.

Finally, the complete crossover assemblies are deep cryogenically treated (DCT) to relieve component, conductor and solder joint stresses at crystal structure level for smoother, more natural sound.

The complementary design of crossover and drive units means that the loudspeaker system as a whole behaves as a minimum phase system over the audio band. Therefore the acoustic sources of the high and low frequency sections are aligned in time and space to ensure accurate reproduction of stereo images.





## CARE OF THE CABINET

The cabinet is finished to exacting standards utilising carefully selected solid hardwood mouldings and matching real wood veneers. The wood should only be cleaned with a dry cloth or with a light application of quality non-silicone furniture polish such as the specialist Tannoy wax supplied in the accessory pack. Take care not to get polish on the grille cloth or lacquered front baffle.

In common with all solid wood furniture, exposure to extremes of heat, cold and varying humidity will cause the wood to ease slightly. Therefore it is recommended that the loudspeaker is protected from environmental extremes to guard against any such occurrence. Any wood will change colour when subjected to the UV content of ambient light and dry out over time, hence the need to 'feed' the wood with the wax provided periodically.



#### TANNOY QUALITY

An important part of Tannoy's design philosophy is to produce loudspeakers with a level of performance beyond the most exacting specifications of contemporary source equipment.

Loudspeaker design is no longer a 'black art'. It is now possible to use computers to model designs and predict results. Comprehensive test equipment is used to pinpoint problems with cabinets or drive units and anechoic chambers help 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, and considerable time is expended in this pursuit.

Tannoy follows a policy of stringent quality control procedures using sophisticated measurement facilities. Strict quality control is more easily achieved because all Prestige loudspeakers are built in-house at the Tannoy factory in Scotland. All drive units are designed and manufactured by Tannoy. All incoming parts are thoroughly tested to ensure that they are within our demanding tolerances. For over 85 years Tannoy has strived to ensure that every loudspeaker it makes exceeds both our exacting standards and our customers' high expectations.



## FAULT FINDING

Tannoy loudspeakers are designed and manufactured to be reliable. When a fault occurs in a hi-fi system the effect is always heard through the loudspeakers although they may not be the source of the fault. It is important to trace the cause of the problem as accurately as possible.

A fault heard on one source (only CD or tape for instance) is most unlikely to be a loudspeaker problem. Loudspeakers do not generate hum, hiss or rumble although high quality, wide-bandwidth loudspeakers may emphasise such problems.



#### WARRANTY

No maintenance of this Prestige GR loudspeaker is necessary, except to periodically wax polish the natural wood of the cabinet - see under Cabinet Care.

Please register your new loudspeaker online at www.tannoy.com.

All of our products have been produced and tested with care and precision to give first class service and exceptional reliability.

All passive components are guaranteed for a period of five years from the date of purchase from an authorized Tannoy dealer. All active and electronic components are guaranteed for a period of two years from the date of purchase from an authorized Tannoy dealer. Misuse, overload or accidental damage to Tannoy passive or active and electronic components are not covered by this warranty. If at any time during this warranty period the equipment proves to be defective for any reason other than accident, misuse, neglect, unauthorised modification or fair wear and tear, we will repair any such manufacturing defect or, at our option, replace it without charge for labour, parts or return carriage.

If you suspect a problem with a Tannoy product then, in the first instance, discuss it with your Tannoy dealer. If you require further assistance then we ask that you deal directly with your local Tannoy distributor. If you cannot locate your distributor please contact Customer Services, Tannoy Limited, at the address given opposite.



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 420199

 Fax:
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 1236
 428230

 Website:
 www.support.tannoy.com

Do not ship any product to Tannoy without previous authorisation.

Our policy commits us to incorporating improvements to our products through continuous research and development. Please confirm current specifications for critical applications with your supplier.

# **TECHNICAL SPECIFICATIONS**

# Performance

Recommended Amplifier Power	20 to 350 watt per channel
Continuous power handling	175 watt RMS
Peak power handling	700 watt
Sensitivity	99 dB (2.83 volt @ 1 m)
Nominal Impedance	8 ohm
Minimum Impedance	5 ohm
Frequency Response	18 Hz - 27 kHz (-6 dB)
Dispersion	90 degrees conical

# Dual Concentric Drive Unit

Low Frequency	<ul><li>380 mm (15") with paper pulp cone and twin roll</li><li>impregnated fabric surround.</li><li>52 mm (2") round wire voice coil</li></ul>
High Frequency	52 mm (2") aluminium/magnesium alloy dome with round wire voice coil
Crossover	
Crossover Type	Bi-wired, hard wired passive, low loss. Time compensated. 2nd order low pass. 2nd order high pass. Deep cryogenically treated
Crossover Frequency	200 Hz acoustical, 1.0 kHz electrical
Adjustments	+/-3 dB over 1.0 kHz to 27 kHz shelving + 2 dB to -6 dB per octave over 5 kHz to 27 kHz slope

# Cabinet

Enclosure Type	Compound horn
Volume	530 litres (18.72 cu. ft.)
Dimensions (H x W x D)	1395 x 980 x 560 mm (54.92 x 38.58 x 22.05")
Construction	High density birch ply, walnut veneered, with solid walnut trim and edging



Tannoy Limited - product designed in the United Kingdom.

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