TANNOY
professional

i8

USER MANUAL

CONTENTS

1. Introduction

Designed for a wide variety of sound reinforcement applications the Tannoy i8 is an ultra compact loudspeaker system capable of delivering high sound pressure levels with extremely low distortion, resulting in outstanding clarity, definition and detail.

The i8 comprises one 8 inch (205mm) Dual Concentric driver in which the low frequency (LF) and high frequency (HF) sources are coincidentally aligned to a point source, resulting in a smooth uniform frequency response over a wide area of coverage. The sophisticated CAD designed waveguide combines 60 degree conical dispersion and excellent acoustic impedance characteristics.

Designed primarily for fixed installations, the i8 is constructed from medium density fibreboard (MDF), for a high level of acoustic damping. The cabinet does however feature a blanking plate which if removed will accommodate a 35mm pole mount. Four M8 inserts on the back of the i8 allow the speaker to be mounted vertically or horizontally when used with the CUB8 bracket.

For applications requiring extended low frequency enhancement, a range of Tannoy sub-bass systems are available and can be used in conjunction with the i8.

2. Unpacking

Every Tannoy i8 product is carefully inspected before packing. After unpacking your loudspeakers, please inspect for any exterior physical damage, and save the carton and any relevant packaging materials in case the loudspeaker again requires packing and shipping. In the event that damage has been sustained in transit notify your dealer immediately.

3. Connectors/Cabling

The i8 has two screw terminals for connection to the amplifier, these are gold plated in order to improve electrical conductivity and to prevent oxidisation. These terminals are capable of accepting cables with a conductor diameter of up to 6mm.

Red is Positive
Black is Negative

Cable choice consists mainly of selecting the correct cross sectional area in relation to the cable length and the load impedance. A small cross sectional area would increase the cables series resistance, inducing power loss and response variations (damping factor).

Connectors should be wired with a minimum of 2.5 sq. mm (12 gauge) cable. This will be perfectly satisfactory under normal conditions. In the case of very long cable runs the wire size should exceed this, refer to the following table for guidance:-

CABLE RUN (m)	C.S.A. OF EACH CONDUCTOR (mm)	CABLE RESISTANCE Ω	% POWER LOSS INTO 8Ω LOAD	% POWER LOSS INTO 4Ω LOAD
10	2.5	0.14	1.7	3.5
	4.0	0.09	1.1	2.2
	6.0	0.06	0.73	1.5
25	2.5	0.35	4.3	8.6
	4.0	0.22	2.7	5.4
	6.0	0.14	1.8	3.6
50	2.5	0.69	8.6	17.0
	4.0	0.43	5.4	11.0
	6.0	0.29	3.6	7.2
100	2.5	1.38	17.0	35.0
	4.0	0.86	11.0	22.0
	6.0	0.58	7.2	14.0

4. Polarity Checking

It is most important to check the polarity of the wiring before the speaker system is flown. A simple method of doing this without a pulse based polarity checker for LF units is as follows: Connect two wires to the +ve and -ve terminals of a PP3 battery. Apply the wire which is connected to the +ve terminal of the battery to the speaker cable leg which you believe to be connected to the red speaker terminal and likewise the -ve leg of the battery to the black speaker terminal

If you have wired it correctly the LF drive unit will move forward, indicating the wiring is correct. All that remains now is to connect the +ve speaker lead to the +ve terminal on the amplifier and the -ve lead to the -ve terminal on the amplifier. If however the LF driver moves backwards, the input connections need to be inverted.

If problems are encountered, inspect the cable wiring in the first instance. It should also be noted that different amplifier manufacturers utilise different pin configurations and polarity conventions, if you are using amplifiers from more than one manufacturer, check the polarity at the amplifiers as well as the loudspeakers.

5. Amplification & Power Handling

As with all professional loudspeaker systems, the power handling is a function of voice coil thermal capacity. Care should be taken to avoid running the amplifier into clip (clipping is the end result of overdriving any amplifier). Damage to the loudspeaker will be sustained if the amplifier is driven into clip for any extended period of time. Headroom of at least 3dB should be allowed. When evaluating an amplifier, it is important to take into account its behaviour under low impedance load conditions. A loudspeaker system is highly reactive and with transient signals it can require more current than the nominal impedance would indicate.

Generally a higher power amplifier running free of distortion will do less damage to the loudspeaker than a lower power amplifier continually clipping. It is also worth remembering that a high powered amplifier running at less than 90% of output power generally sounds a lot better than a lower power amplifier running at 100%. An amplifier with insufficient drive capability will not allow the full performance of the loudspeaker to be realised.

It is important when using different manufacturers amplifiers in a single installation that the have very closely matched gains, the variation should be less than +/- 0.5dB. This precaution is important to the overall system balance when only a single compressor/limiter or active crossover is being used with multiple cabinets, it is therefore recommended that the same amplifiers are used throughout.

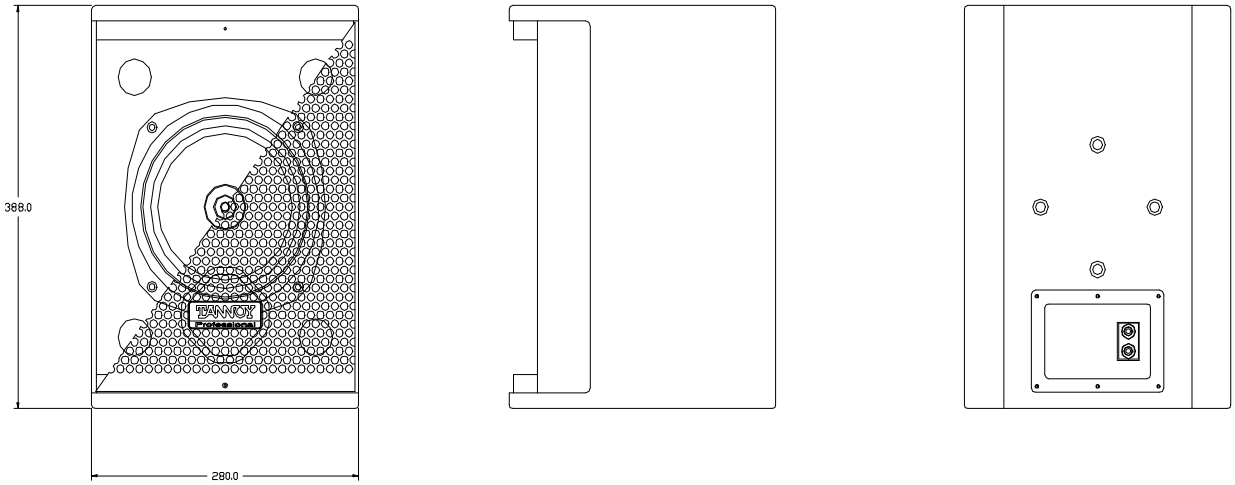
6. Crossover/Equalisation

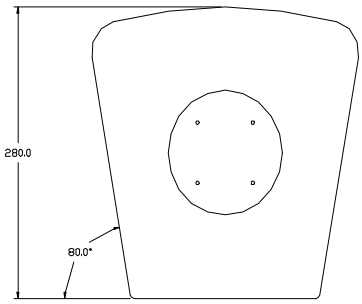
The i8 is supplied as standard for passive operation via the internal crossover network. If higher peak outputs are required then it can be used in conjunction with the Tannoy TX1 controller/crossover which provides high pass filtering and a degree of parametric equalisation, as well as a fixed crossover point for use with sub-bass loudspeakers.

The i8 loudspeaker is designed to need no equalisation or correction to overcome system limitations. As a result, it will only need equalisation to compensate for difficult acoustic environments.

Over equalisation can reduce system headroom, and introduce phase distortion resulting in greater problems than cures. If equalisation is required then it should be applied gently and smoothly. The i8 loudspeaker is a point source, phase coherent design and violent equalisation will be detrimental to the overall sound quality.

7. Dimensions





8. Hardware

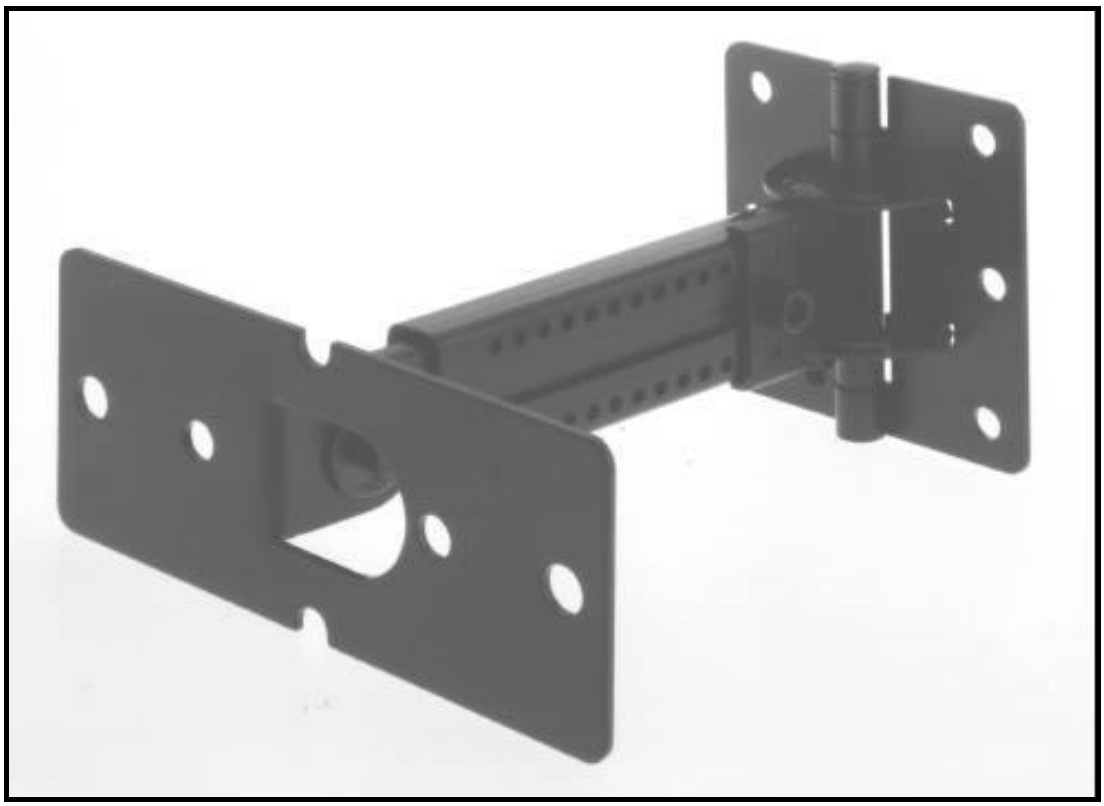
The i8 can be wall or ceiling mounted by using the **CUB 8** bracket which is designed to offer the maximum flexibility in selecting desired angles.

The CUB 8 is supplied with M8* bolts for fixing to the loudspeaker, hinge clips which can be used to alter the angle of the wall fixing plate and an allen key to secure the arm length adjustment as well as the desired angle of 'tilt' of the loudspeaker (vertical axis).

The hinged wall mount plate enables the CUB 8 to be fixed to flat walls and ceilings or to fit onto internal or external corners.

When the desired angle of tilt has been decided for the loudspeaker, the allen bolt holding the loudspeaker mounting plate onto the arm of the CUB 8 can be tightened, the sprockets will hold the assembly firm ensuring it will not slip. The arm length can also be adjusted if desired. It is imperative that the bracket is fixed soundly to the wall. Be sure to use the correct fixings (e.g. Rawbolt, Rawplug) according to the wall type.

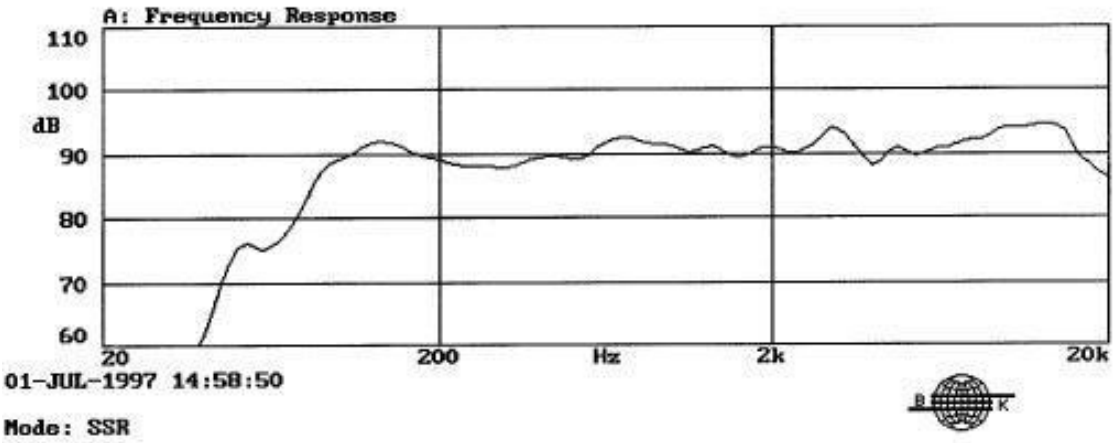
As there are four M8 inserts on the back of the i8 (see dimensions) the loudspeaker can be mounted either horizontally or vertically using the CUB 8 bracket.



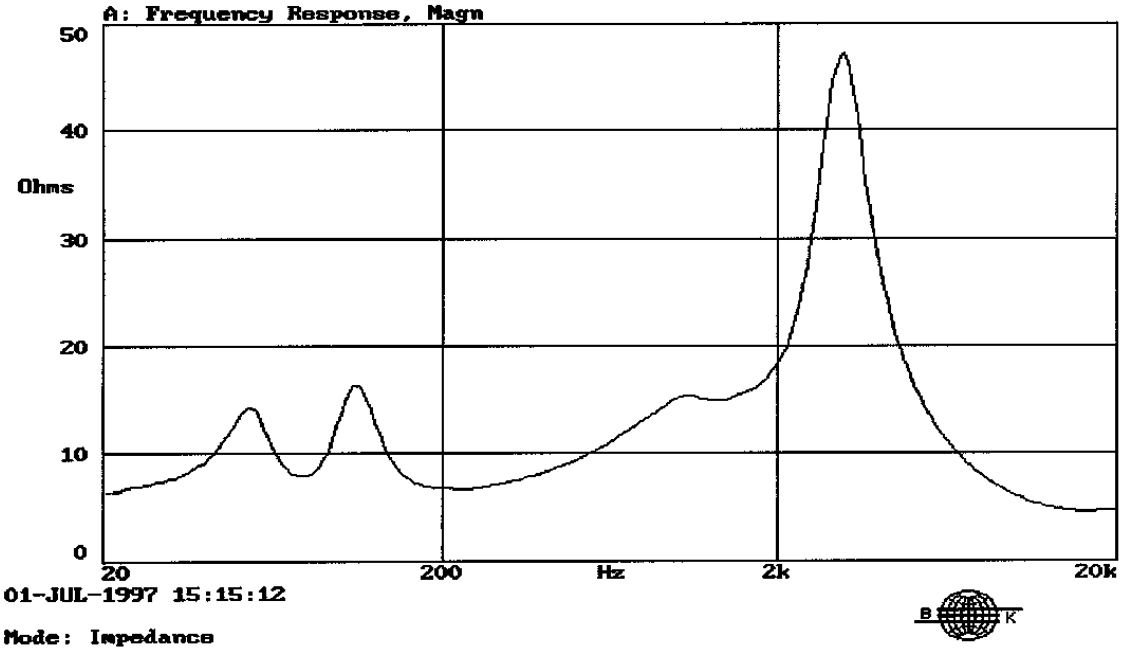
CUB 8 BRACKET

***** 1/4" UNC bolts are also supplied with the CUB 8 these are not required for use with the i8.

9. Performance Data



Anechoic Frequency Response, 1watt @ 1m



Impedance

10. Technical Specifications

Frequency response (1) +/- 3dB	85Hz - 22kHz			
Recommended Amplifier Power	150 - 260 watt / 8 ohm			
Power Handling	Average(2)	Programme	Peak (10ms)	
	130 watt	260 watt	520 watt	
Sensitivity (1)				
2.83 volt @ 1m	92 dB	**95 dB (half space)**		
Maximum SPL (3)	Average	Peak	Average (half space)	Peak (half space)
@ 1m	113 dB	119 dB	116dB	122dB
Impedance	Nominal		8.0 ohm	
	Minimum		6.4 ohm	
DI Averaged (PCQ)	8.2, 250 Hz - 16 kHz			
@ 1kHz (ISO)	6.3			
@ 2kHz (ISO)	7.2			
@ 4kHz (ISO)	10.5			
@ 8kHz (ISO)	12.3			
@ 16kHz (ISO)	13.7			
Q Averaged (PCQ)	9.44, 250 Hz - 16 kHz			
@ 1kHz (ISO)	4.3			
@ 2kHz (ISO)	5.2			
@ 4kHz (ISO)	11.2			
@ 8kHz (ISO)	17.0			
@ 16kHz (ISO)	23.4			
Distortion				
0.1 Full Power	**2nd Harmonic**	**3rd Harmonic**		
250 Hz	1.00%	0.31%		
1000 Hz	0.25%	0.56%		
10000 Hz	1.4%	0.14%		
0.01 Full Power	**2nd Harmonic**	**3rd Harmonic**		
250 Hz	0.31%	0.25%		
1000 Hz	0.4%	0.03%		
10000 Hz	0.18%	0.5%		

Driver Complement	1 x 8” (200mm) Constant Directivity Dual Concentric Type number 2062
Crossover Point	Passive 1.7 kHz 4^{th} order high pass, 2^{nd} order low pass Dynamic HF protection
Enclosure	16.6 litre vented, 15mm MDF
Finish	Textured black\grey paint
Protective Grille	Perforated steel, black with 58% free air flow
Connectors	2 x 4mm binding posts
Fittings	1 x Blank plate for pole mount socket 4 x M8 inserts for CUB8 Bracket
Dimensions	388mm(H) x 280mm(W) x 280mm(D) 15.28ins(H) x 11.02ins(W) x 11.02ins(D)
Weight	8.2 Kg (18.04 lbs)

NOTES:
(1) Average over stated bandwidth. Measured at 1m on axis, in an anechoic chamber.
(2) Long term power handling capacity as defined in EIA standard RS - 426A.
(3) Unweighted pink noise input, measured at 1m

Tannoy operate a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications which Tannoy reserve the right to alter without prior notice.
Please verify the latest specifications when dealing with critical applications.

11. i8 Service Parts & Accessories

Part Number	Description
7900 0474	Driver Kit - 2062
7900 0475	Recone Kit - 2062
7900 0385	HF Diaphragm Kit
7300 0601	Crossover Kit - 1245
7900 0442	Paint - Touch up Black-Grey
8000 0648	CUB8 Wall Mounting Bracket (pair)
8000 0647	Flying Kit (3 x M8 eyebolts)
8000 0740	Tannoy TX1 Active System Controller/2-way Crossover

12. Warranty

No maintenance of the i8 loudspeaker is necessary.

All Tannoy professional loudspeaker products are covered by a 5 year warranty from the date of manufacture subject to the absence of misuse, overload or accidental damage. Claims will not be considered is the serial number has been altered or removed. Work under warranty should only be carried out by a Tannoy Professional dealer or service agent. This warranty in no way affects your statutory rights. For further information please contact your dealer or distributor in your country. If you cannot locate your distributor please contact Customer Services, Tannoy Ltd at the address given below.

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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.

EASE™ Data for Tannoy Professional products available on request.

TANNOY professional

Declaration of Conformity

The following apparatus is/are manufactured in the United Kingdom by Tannoy Ltd of Rosehall Industrial estate, Coatbridge, Scotland, ML5 4TF and conform(s) to the protection requirements of the European Electromagnetic Compatibility Standards and Directives relevant to Domestic Electrical Equipment. The apparatus is designed and constructed such that electromagnetic disturbances generated do not exceed levels allowing radio and telecommunications equipment and other apparatus to operate as intended, and, the apparatus has an adequate level of intrinsic immunity to electromagnetic disturbance to enable operation as specified and intended.

Details of the Apparatus:	Tannoy Contractor Loudspeaker Model Number: i8
Associated Technical File:	EMCi8
Applicable Standards:	EN 50081-1 Emission EN 50082-1 Immunity
Signed:	
Position:	Technical Manager Tannoy Professional
Date:	16th July 1998

For Tannoy Ltd

TANNOY®

professional

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GH 20th JULY 1998